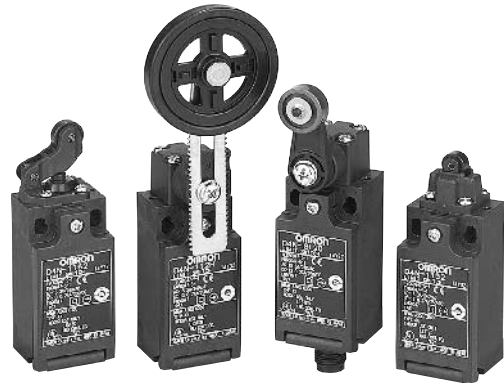


# Safety Limit Switch D4N

## Upgraded Safety Limit Switches Based on the Popular D4D, Providing a Full Lineup Conforming to International Standards

- Lineup includes three contact models with 2NC/1NO and 3NC contact forms in addition to the previous contact forms 1NC/1NO, and 2NC. Models with MBB contacts are also available.
- M12-connector models are available, saving on labor and simplifying replacement.
- Standardized gold-clad contacts provide high contact reliability. Can be used with both standard loads and microloads.
- Free of lead, cadmium, and hexavalent chrome, reducing the burden on the environment.
- Conforms to EN115 and EN81-1.
- Lineup includes both slow-action and snap-action models with Zb contacts.
- Approved standards: UL, EN (TÜV), and CCC

**Note:** Be sure to read the "Safety Precautions" on page B-23.



**NEW**

**Note:** Contact your sales representative for details on models with safety standard certification.

Safety Limit  
Switches  
D4N

## Model Number Structure

### ■ Model Number Legend

D4N-□□□□  
1 2 3

#### 1. Conduit/Connector size

- 1: Pg13.5 (1-conduit)
- 2: G1/2 (1-conduit)
- 3: 1/2-14NPT (1-conduit)
- 4: M20 (1-conduit)
- 5: Pg13.5 (2-conduit)
- 6: G1/2 (2-conduit)
- 7: 1/2-14NPT (2-conduit)
- 8: M20 (2-conduit)
- 9: M12 connector (1-conduit)

#### 2. Built-in Switch

- 1: 1NC/1NO (snap-action)
- 2: 2NC (snap-action)
- A: 1NC/1NO (slow-action)
- B: 2NC (slow-action)
- C: 2NC/1NO (slow-action)
- D: 3NC (slow-action)
- E: 1NC/1NO (MBB contact) (slow-action)
- F: 2NC/1NO (MBB contact) (slow-action)

#### 3. Head and Actuator

- 20: Roller lever (resin lever, resin roller)
- 22: Roller lever (metal lever, resin roller)
- 25: Roller lever (metal lever, metal roller)
- 26: Roller lever (metal lever, bearing roller)
- 2G: Adjustable roller lever, form lock (metal lever, resin roller)
- 2H: Adjustable roller lever, form lock (metal lever, rubber roller)
- 31: Top plunger
- 32: Top roller plunger
- 62: One-way roller arm lever (horizontal)
- 72: One-way roller arm lever (vertical)
- 80: Cat whisker
- 87: Plastic rod
- RE: Fork lever lock (right operation)
- LE: Fork lever lock (left operation)

# Ordering Information

## List of Models

### Switches with Two Contacts

| Actuator                                                                                                                                       | Conduit size |               | Built-in switch mechanism                                                           |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|-------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------|----------|
|                                                                                                                                                |              |               | 1NC/1NO<br>(Snap-action)                                                            |          | 2NC<br>(Snap-action)                                                                |          | 1NC/1NO<br>(Slow-action)                                                              |          | 2NC<br>(Slow-action)                                                                  |          |
|                                                                                                                                                |              |               | Direct opening                                                                      | Model    | Direct opening                                                                      | Model    | Direct opening                                                                        | Model    | Direct opening                                                                        | Model    |
| <div>Safety Limit Switches</div> <div>D4N</div> <div>  </div> | 1-conduit    | Pg13.5        |    | D4N-1120 |    | D4N-1220 |    | D4N-1A20 |    | D4N-1B20 |
|                                                                                                                                                |              | G1/2          |                                                                                     | D4N-2120 |                                                                                     | D4N-2220 |                                                                                       | D4N-2A20 |                                                                                       | D4N-2B20 |
|                                                                                                                                                |              | 1/2-14NPT     |                                                                                     | D4N-3120 |                                                                                     | D4N-3220 |                                                                                       | D4N-3A20 |                                                                                       | D4N-3B20 |
|                                                                                                                                                |              | M20           |                                                                                     | D4N-4120 |                                                                                     | D4N-4220 |                                                                                       | D4N-4A20 |                                                                                       | D4N-4B20 |
|                                                                                                                                                |              | M12 connector |                                                                                     | D4N-9120 |                                                                                     | D4N-9220 |                                                                                       | D4N-9A20 |                                                                                       | D4N-9B20 |
|                                                                                                                                                | 2-conduit    | Pg13.5        |    | D4N-5120 |    | D4N-5220 |    | D4N-5A20 |    | D4N-5B20 |
|                                                                                                                                                |              | G1/2          |                                                                                     | D4N-6120 |                                                                                     | D4N-6220 |                                                                                       | D4N-6A20 |                                                                                       | D4N-6B20 |
|                                                                                                                                                |              | M20           |                                                                                     | D4N-8120 |                                                                                     | D4N-8220 |                                                                                       | D4N-8A20 |                                                                                       | D4N-8B20 |
|                                                                                                                                                |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|                                                                                                                                                |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
| <div>  </div>                                                 | 1-conduit    | Pg13.5        |    | D4N-1122 |    | D4N-1222 |    | D4N-1A22 |    | D4N-1B22 |
|                                                                                                                                                |              | G1/2          |                                                                                     | D4N-2122 |                                                                                     | D4N-2222 |                                                                                       | D4N-2A22 |                                                                                       | D4N-2B22 |
|                                                                                                                                                |              | 1/2-14NPT     |                                                                                     | D4N-3122 |                                                                                     | D4N-3222 |                                                                                       | D4N-3A22 |                                                                                       | D4N-3B22 |
|                                                                                                                                                |              | M20           |                                                                                     | D4N-4122 |                                                                                     | D4N-4222 |                                                                                       | D4N-4A22 |                                                                                       | D4N-4B22 |
|                                                                                                                                                |              | M12 connector |                                                                                     | D4N-9122 |                                                                                     | D4N-9222 |                                                                                       | D4N-9A22 |                                                                                       | D4N-9B22 |
|                                                                                                                                                | 2-conduit    | Pg13.5        |    | D4N-5122 |    | D4N-5222 |    | D4N-5A22 |    | D4N-5B22 |
|                                                                                                                                                |              | G1/2          |                                                                                     | D4N-6122 |                                                                                     | D4N-6222 |                                                                                       | D4N-6A22 |                                                                                       | D4N-6B22 |
|                                                                                                                                                |              | M20           |                                                                                     | D4N-8122 |                                                                                     | D4N-8222 |                                                                                       | D4N-8A22 |                                                                                       | D4N-8B22 |
|                                                                                                                                                |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|                                                                                                                                                |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
| <div>  </div>                                               | 1-conduit    | Pg13.5        |  | D4N-1125 |  | D4N-1225 |  | D4N-1A25 |  | D4N-1B25 |
|                                                                                                                                                |              | G1/2          |                                                                                     | D4N-2125 |                                                                                     | D4N-2225 |                                                                                       | D4N-2A25 |                                                                                       | D4N-2B25 |
|                                                                                                                                                |              | 1/2-14NPT     |                                                                                     | D4N-3125 |                                                                                     | D4N-3225 |                                                                                       | D4N-3A25 |                                                                                       | D4N-3B25 |
|                                                                                                                                                |              | M20           |                                                                                     | D4N-4125 |                                                                                     | D4N-4225 |                                                                                       | D4N-4A25 |                                                                                       | D4N-4B25 |
|                                                                                                                                                |              | M12 connector |                                                                                     | D4N-9125 |                                                                                     | D4N-9225 |                                                                                       | D4N-9A25 |                                                                                       | D4N-9B25 |
|                                                                                                                                                | 2-conduit    | Pg13.5        |  | D4N-5125 |  | D4N-5225 |  | D4N-5A25 |  | D4N-5B25 |
|                                                                                                                                                |              | G1/2          |                                                                                     | D4N-6125 |                                                                                     | D4N-6225 |                                                                                       | D4N-6A25 |                                                                                       | D4N-6B25 |
|                                                                                                                                                |              | 1/2-14NPT     |                                                                                     | D4N-3126 |                                                                                     | D4N-3226 |                                                                                       | D4N-3A26 |                                                                                       | D4N-3B26 |
|                                                                                                                                                |              | M20           |                                                                                     | D4N-4126 |                                                                                     | D4N-4226 |                                                                                       | D4N-4A26 |                                                                                       | D4N-4B26 |
|                                                                                                                                                |              | M12 connector |                                                                                     | D4N-9126 |                                                                                     | D4N-9226 |                                                                                       | D4N-9A26 |                                                                                       | D4N-9B26 |
| <div>  </div>                                               | 1-conduit    | Pg13.5        |  | D4N-1131 |  | D4N-1231 |  | D4N-1A31 |  | D4N-1B31 |
|                                                                                                                                                |              | G1/2          |                                                                                     | D4N-2131 |                                                                                     | D4N-2231 |                                                                                       | D4N-2A31 |                                                                                       | D4N-2B31 |
|                                                                                                                                                |              | 1/2-14NPT     |                                                                                     | D4N-3131 |                                                                                     | D4N-3231 |                                                                                       | D4N-3A31 |                                                                                       | D4N-3B31 |
|                                                                                                                                                |              | M20           |                                                                                     | D4N-4131 |                                                                                     | D4N-4231 |                                                                                       | D4N-4A31 |                                                                                       | D4N-4B31 |
|                                                                                                                                                |              | M12 connector |                                                                                     | D4N-9131 |                                                                                     | D4N-9231 |                                                                                       | D4N-9A31 |                                                                                       | D4N-9B31 |
|                                                                                                                                                | 2-conduit    | Pg13.5        |  | D4N-5131 |  | D4N-5231 |  | D4N-5A31 |  | D4N-5B31 |
|                                                                                                                                                |              | G1/2          |                                                                                     | D4N-6131 |                                                                                     | D4N-6231 |                                                                                       | D4N-6A31 |                                                                                       | D4N-6B31 |
|                                                                                                                                                |              | M20           |                                                                                     | D4N-8131 |                                                                                     | D4N-8231 |                                                                                       | D4N-8A31 |                                                                                       | D4N-8B31 |
|                                                                                                                                                |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|                                                                                                                                                |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
| <div>  </div>                                               | 1-conduit    | Pg13.5        |  | D4N-1132 |  | D4N-1232 |  | D4N-1A32 |  | D4N-1B32 |
|                                                                                                                                                |              | G1/2          |                                                                                     | D4N-2132 |                                                                                     | D4N-2232 |                                                                                       | D4N-2A32 |                                                                                       | D4N-2B32 |
|                                                                                                                                                |              | 1/2-14NPT     |                                                                                     | D4N-3132 |                                                                                     | D4N-3232 |                                                                                       | D4N-3A32 |                                                                                       | D4N-3B32 |
|                                                                                                                                                |              | M20           |                                                                                     | D4N-4132 |                                                                                     | D4N-4232 |                                                                                       | D4N-4A32 |                                                                                       | D4N-4B32 |
|                                                                                                                                                |              | M12 connector |                                                                                     | D4N-9132 |                                                                                     | D4N-9232 |                                                                                       | D4N-9A32 |                                                                                       | D4N-9B32 |
|                                                                                                                                                | 2-conduit    | Pg13.5        |  | D4N-5132 |  | D4N-5232 |  | D4N-5A32 |  | D4N-5B32 |
|                                                                                                                                                |              | G1/2          |                                                                                     | D4N-6132 |                                                                                     | D4N-6232 |                                                                                       | D4N-6A32 |                                                                                       | D4N-6B32 |
|                                                                                                                                                |              | M20           |                                                                                     | D4N-8132 |                                                                                     | D4N-8232 |                                                                                       | D4N-8A32 |                                                                                       | D4N-8B32 |
|                                                                                                                                                |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|                                                                                                                                                |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |

| Actuator                                                                                                                                                        | Conduit size |               | Built-in switch mechanism                                                           |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|-------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------|----------|
|                                                                                                                                                                 |              |               | 1NC/1NO<br>(Snap-action)                                                            |          | 2NC<br>(Snap-action)                                                                |          | 1NC/1NO<br>(Slow-action)                                                              |          | 2NC<br>(Slow-action)                                                                  |          |
|                                                                                                                                                                 |              |               | Direct<br>opening                                                                   | Model    | Direct<br>opening                                                                   | Model    | Direct<br>opening                                                                     | Model    | Direct<br>opening                                                                     | Model    |
| One-way roller<br>arm lever<br>(horizontal)<br>                                | 1-conduit    | Pg13.5        |    | D4N-1162 |    | D4N-1262 |    | D4N-1A62 |    | D4N-1B62 |
|                                                                                                                                                                 |              | G1/2          |                                                                                     | D4N-2162 |                                                                                     | D4N-2262 |                                                                                       | D4N-2A62 |                                                                                       | D4N-2B62 |
|                                                                                                                                                                 |              | 1/2-14NPT     |                                                                                     | D4N-3162 |                                                                                     | D4N-3262 |                                                                                       | D4N-3A62 |                                                                                       | D4N-3B62 |
|                                                                                                                                                                 |              | M20           |                                                                                     | D4N-4162 |                                                                                     | D4N-4262 |                                                                                       | D4N-4A62 |                                                                                       | D4N-4B62 |
|                                                                                                                                                                 |              | M12 connector |                                                                                     | D4N-9162 |                                                                                     | D4N-9262 |                                                                                       | D4N-9A62 |                                                                                       | D4N-9B62 |
|                                                                                                                                                                 | 2-conduit    | Pg13.5        |    | D4N-5162 |    | D4N-5262 |    | D4N-5A62 |    | D4N-5B62 |
|                                                                                                                                                                 |              | G1/2          |                                                                                     | D4N-6162 |                                                                                     | D4N-6262 |                                                                                       | D4N-6A62 |                                                                                       | D4N-6B62 |
|                                                                                                                                                                 |              | M20           |                                                                                     | D4N-8162 |                                                                                     | D4N-8262 |                                                                                       | D4N-8A62 |                                                                                       | D4N-8B62 |
| One-way roller<br>arm lever<br>(vertical)<br>                                  | 1-conduit    | Pg13.5        |    | D4N-1172 |    | D4N-1272 |    | D4N-1A72 |    | D4N-1B72 |
|                                                                                                                                                                 |              | G1/2          |                                                                                     | D4N-2172 |                                                                                     | D4N-2272 |                                                                                       | D4N-2A72 |                                                                                       | D4N-2B72 |
|                                                                                                                                                                 |              | 1/2-14NPT     |                                                                                     | D4N-3172 |                                                                                     | D4N-3272 |                                                                                       | D4N-3A72 |                                                                                       | D4N-3B72 |
|                                                                                                                                                                 |              | M20           |                                                                                     | D4N-4172 |                                                                                     | D4N-4272 |                                                                                       | D4N-4A72 |                                                                                       | D4N-4B72 |
|                                                                                                                                                                 |              | M12 connector |                                                                                     | D4N-9172 |                                                                                     | D4N-9272 |                                                                                       | D4N-9A72 |                                                                                       | D4N-9B72 |
|                                                                                                                                                                 | 2-conduit    | Pg13.5        |    | D4N-5172 |    | D4N-5272 |    | D4N-5A72 |    | D4N-5B72 |
|                                                                                                                                                                 |              | G1/2          |                                                                                     | D4N-6172 |                                                                                     | D4N-6272 |                                                                                       | D4N-6A72 |                                                                                       | D4N-6B72 |
|                                                                                                                                                                 |              | M20           |                                                                                     | D4N-8172 |                                                                                     | D4N-8272 |                                                                                       | D4N-8A72 |                                                                                       | D4N-8B72 |
| Adjustable roller<br>lever, form lock<br>(metal lever, resin<br>roller)<br>    | 1-conduit    | Pg13.5        |    | D4N-112G |    | D4N-122G |    | D4N-1A2G |    | D4N-1B2G |
|                                                                                                                                                                 |              | G1/2          |                                                                                     | D4N-212G |                                                                                     | D4N-222G |                                                                                       | D4N-2A2G |                                                                                       | D4N-2B2G |
|                                                                                                                                                                 |              | 1/2-14NPT     |                                                                                     | D4N-312G |                                                                                     | D4N-322G |                                                                                       | D4N-3A2G |                                                                                       | D4N-3B2G |
|                                                                                                                                                                 |              | M20           |                                                                                     | D4N-412G |                                                                                     | D4N-422G |                                                                                       | D4N-4A2G |                                                                                       | D4N-4B2G |
|                                                                                                                                                                 |              | M12 connector |                                                                                     | D4N-912G |                                                                                     | D4N-922G |                                                                                       | D4N-9A2G |                                                                                       | D4N-9B2G |
|                                                                                                                                                                 | 2-conduit    | G1/2          |    | D4N-612G |    | D4N-622G |    | D4N-6A2G |    | D4N-6B2G |
|                                                                                                                                                                 |              | M20           |                                                                                     | D4N-812G |                                                                                     | D4N-822G |                                                                                       | D4N-8A2G |                                                                                       | D4N-8B2G |
| Adjustable roller<br>lever, form lock<br>(metal lever,<br>rubber roller)<br> | 1-conduit    | Pg13.5        |  | D4N-112H |  | D4N-122H |  | D4N-1A2H |  | D4N-1B2H |
|                                                                                                                                                                 |              | G1/2          |                                                                                     | D4N-212H |                                                                                     | D4N-222H |                                                                                       | D4N-2A2H |                                                                                       | D4N-2B2H |
|                                                                                                                                                                 |              | 1/2-14NPT     |                                                                                     | D4N-312H |                                                                                     | D4N-322H |                                                                                       | D4N-3A2H |                                                                                       | D4N-3B2H |
|                                                                                                                                                                 |              | M20           |                                                                                     | D4N-412H |                                                                                     | D4N-422H |                                                                                       | D4N-4A2H |                                                                                       | D4N-4B2H |
|                                                                                                                                                                 |              | M12 connector |                                                                                     | D4N-912H |                                                                                     | D4N-922H |                                                                                       | D4N-9A2H |                                                                                       | D4N-9B2H |
|                                                                                                                                                                 | 2-conduit    | G1/2          |  | D4N-612H |  | D4N-622H |  | D4N-6A2H |  | D4N-6B2H |
|                                                                                                                                                                 |              | M20           |                                                                                     | D4N-812H |                                                                                     | D4N-822H |                                                                                       | D4N-8A2H |                                                                                       | D4N-8B2H |

**Note:** It is recommended that M20 be used for Switches to be exported to Europe and 1/2-14NPT be used for Switches to be exported to North American countries.

## Switches with Three Contacts and MBB Contacts

| Actuator                                                                                                                           | Conduit size |               | Built-in switch mechanism                                                           |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|-------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------|----------|
|                                                                                                                                    |              |               | 2NC/1NO<br>(Slow-action)                                                            |          | 3NC<br>(Slow-action)                                                                |          | 1NC/1NO MBB<br>(Slow-action)                                                          |          | 2NC/1NO MBB<br>(Slow-action)                                                          |          |
|                                                                                                                                    |              |               | Direct<br>opening                                                                   | Model    | Direct<br>opening                                                                   | Model    | Direct<br>opening                                                                     | Model    | Direct<br>opening                                                                     | Model    |
| Roller lever (resin<br>lever, resin roller)<br> | 1-conduit    | Pg13.5        |  | D4N-1C20 |  | D4N-1D20 |  | D4N-1E20 |  | D4N-1F20 |
|                                                                                                                                    |              | G1/2          |                                                                                     | D4N-2C20 |                                                                                     | D4N-2D20 |                                                                                       | D4N-2E20 |                                                                                       | D4N-2F20 |
|                                                                                                                                    |              | 1/2-14NPT     |                                                                                     | D4N-3C20 |                                                                                     | D4N-3D20 |                                                                                       | D4N-3E20 |                                                                                       | D4N-3F20 |
|                                                                                                                                    |              | M20           |                                                                                     | D4N-4C20 |                                                                                     | D4N-4D20 |                                                                                       | D4N-4E20 |                                                                                       | D4N-4F20 |
|                                                                                                                                    |              | M12 connector |                                                                                     | ---      |                                                                                     | ---      |                                                                                       | D4N-9E20 |                                                                                       | ---      |
|                                                                                                                                    | 2-conduit    | Pg13.5        |  | D4N-5C20 |  | D4N-5D20 |  | D4N-5E20 |  | D4N-5F20 |
|                                                                                                                                    |              | G1/2          |                                                                                     | D4N-6C20 |                                                                                     | D4N-6D20 |                                                                                       | D4N-6E20 |                                                                                       | D4N-6F20 |
|                                                                                                                                    |              | M20           |                                                                                     | D4N-8C20 |                                                                                     | D4N-8D20 |                                                                                       | D4N-8E20 |                                                                                       | D4N-8F20 |

| Actuator                                                                                                                              | Conduit size |               | Built-in switch mechanism                                                           |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|---------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|-------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------|----------|
|                                                                                                                                       |              |               | 2NC/1NO<br>(Slow-action)                                                            |          | 3NC<br>(Slow-action)                                                                |          | 1NC/1NO MBB<br>(Slow-action)                                                          |          | 2NC/1NO MBB<br>(Slow-action)                                                          |          |
|                                                                                                                                       |              |               | Direct<br>opening                                                                   | Model    | Direct<br>opening                                                                   | Model    | Direct<br>opening                                                                     | Model    | Direct<br>opening                                                                     | Model    |
| Roller lever (metal<br>lever, resin roller)<br>      | 1-conduit    | Pg13.5        |    | D4N-1C22 |    | D4N-1D22 |    | D4N-1E22 |    | D4N-1F22 |
|                                                                                                                                       |              | G1/2          |                                                                                     | D4N-2C22 |                                                                                     | D4N-2D22 |                                                                                       | D4N-2E22 |                                                                                       | D4N-2F22 |
|                                                                                                                                       |              | 1/2-14NPT     |                                                                                     | D4N-3C22 |                                                                                     | D4N-3D22 |                                                                                       | D4N-3E22 |                                                                                       | D4N-3F22 |
|                                                                                                                                       |              | M20           |                                                                                     | D4N-4C22 |                                                                                     | D4N-4D22 |                                                                                       | D4N-4E22 |                                                                                       | D4N-4F22 |
|                                                                                                                                       |              | M12 connector |                                                                                     | ---      |                                                                                     | ---      |                                                                                       | D4N-9E22 |                                                                                       | ---      |
|                                                                                                                                       | 2-conduit    | Pg13.5        |    | D4N-5C22 |    | D4N-5D22 |    | D4N-5E22 |    | D4N-5F22 |
|                                                                                                                                       |              | G1/2          |                                                                                     | D4N-6C22 |                                                                                     | D4N-6D22 |                                                                                       | D4N-6E22 |                                                                                       | D4N-6F22 |
|                                                                                                                                       |              | M20           |                                                                                     | D4N-8C22 |                                                                                     | D4N-8D22 |                                                                                       | D4N-8E22 |                                                                                       | D4N-8F22 |
|                                                                                                                                       |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|                                                                                                                                       |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
| Roller lever (metal<br>lever, metal roller)<br>      | 1-conduit    | Pg13.5        |    | D4N-1C25 |    | D4N-1D25 |    | D4N-1E25 |    | D4N-1F25 |
|                                                                                                                                       |              | G1/2          |                                                                                     | D4N-2C25 |                                                                                     | D4N-2D25 |                                                                                       | D4N-2E25 |                                                                                       | D4N-2F25 |
|                                                                                                                                       |              | 1/2-14NPT     |                                                                                     | D4N-3C25 |                                                                                     | D4N-3D25 |                                                                                       | D4N-3E25 |                                                                                       | D4N-3F25 |
|                                                                                                                                       |              | M20           |                                                                                     | D4N-4C25 |                                                                                     | D4N-4D25 |                                                                                       | D4N-4E25 |                                                                                       | D4N-4F25 |
|                                                                                                                                       |              | M12 connector |                                                                                     | ---      |                                                                                     | ---      |                                                                                       | D4N-9E25 |                                                                                       | ---      |
|                                                                                                                                       |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
| Roller lever (metal<br>lever, bearing<br>roller)<br> | 1-conduit    | Pg13.5        |    | D4N-1C26 |    | D4N-1D26 |    | D4N-1E26 |    | D4N-1F26 |
|                                                                                                                                       |              | G1/2          |                                                                                     | D4N-2C26 |                                                                                     | D4N-2D26 |                                                                                       | D4N-2E26 |                                                                                       | D4N-2F26 |
|                                                                                                                                       |              | 1/2-14NPT     |                                                                                     | D4N-3C26 |                                                                                     | D4N-3D26 |                                                                                       | D4N-3E26 |                                                                                       | D4N-3F26 |
|                                                                                                                                       |              | M20           |                                                                                     | D4N-4C26 |                                                                                     | D4N-4D26 |                                                                                       | D4N-4E26 |                                                                                       | D4N-4F26 |
|                                                                                                                                       |              | M12 connector |                                                                                     | ---      |                                                                                     | ---      |                                                                                       | D4N-9E26 |                                                                                       | ---      |
|                                                                                                                                       |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
| Plunger<br>                                          | 1-conduit    | Pg13.5        |    | D4N-1C31 |    | D4N-1D31 |    | D4N-1E31 |    | D4N-1F31 |
|                                                                                                                                       |              | G1/2          |                                                                                     | D4N-2C31 |                                                                                     | D4N-2D31 |                                                                                       | D4N-2E31 |                                                                                       | D4N-2F31 |
|                                                                                                                                       |              | 1/2-14NPT     |                                                                                     | D4N-3C31 |                                                                                     | D4N-3D31 |                                                                                       | D4N-3E31 |                                                                                       | D4N-3F31 |
|                                                                                                                                       |              | M20           |                                                                                     | D4N-4C31 |                                                                                     | D4N-4D31 |                                                                                       | D4N-4E31 |                                                                                       | D4N-4F31 |
|                                                                                                                                       |              | M12 connector |                                                                                     | ---      |                                                                                     | ---      |                                                                                       | D4N-9E31 |                                                                                       | ---      |
|                                                                                                                                       | 2-conduit    | Pg13.5        |  | D4N-5C31 |  | D4N-5D31 |  | D4N-5E31 |  | D4N-5F31 |
|                                                                                                                                       |              | G1/2          |                                                                                     | D4N-6C31 |                                                                                     | D4N-6D31 |                                                                                       | D4N-6E31 |                                                                                       | D4N-6F31 |
|                                                                                                                                       |              | M20           |                                                                                     | D4N-8C31 |                                                                                     | D4N-8D31 |                                                                                       | D4N-8E31 |                                                                                       | D4N-8F31 |
|                                                                                                                                       |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|                                                                                                                                       |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
| Roller plunger<br>                                 | 1-conduit    | Pg13.5        |  | D4N-1C32 |  | D4N-1D32 |  | D4N-1E32 |  | D4N-1F32 |
|                                                                                                                                       |              | G1/2          |                                                                                     | D4N-2C32 |                                                                                     | D4N-2D32 |                                                                                       | D4N-2E32 |                                                                                       | D4N-2F32 |
|                                                                                                                                       |              | 1/2-14NPT     |                                                                                     | D4N-3C32 |                                                                                     | D4N-3D32 |                                                                                       | D4N-3E32 |                                                                                       | D4N-3F32 |
|                                                                                                                                       |              | M20           |                                                                                     | D4N-4C32 |                                                                                     | D4N-4D32 |                                                                                       | D4N-4E32 |                                                                                       | D4N-4F32 |
|                                                                                                                                       |              | M12 connector |                                                                                     | ---      |                                                                                     | ---      |                                                                                       | D4N-9E32 |                                                                                       | ---      |
|                                                                                                                                       | 2-conduit    | Pg13.5        |  | D4N-5C32 |  | D4N-5D32 |  | D4N-5E32 |  | D4N-5F32 |
|                                                                                                                                       |              | G1/2          |                                                                                     | D4N-6C32 |                                                                                     | D4N-6D32 |                                                                                       | D4N-6E32 |                                                                                       | D4N-6F32 |
|                                                                                                                                       |              | M20           |                                                                                     | D4N-8C32 |                                                                                     | D4N-8D32 |                                                                                       | D4N-8E32 |                                                                                       | D4N-8F32 |
|                                                                                                                                       |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|                                                                                                                                       |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
| One-way roller<br>arm lever<br>(horizontal)<br>    | 1-conduit    | Pg13.5        |  | D4N-1C62 |  | D4N-1D62 |  | D4N-1E62 |  | D4N-1F62 |
|                                                                                                                                       |              | G1/2          |                                                                                     | D4N-2C62 |                                                                                     | D4N-2D62 |                                                                                       | D4N-2E62 |                                                                                       | D4N-2F62 |
|                                                                                                                                       |              | 1/2-14NPT     |                                                                                     | D4N-3C62 |                                                                                     | D4N-3D62 |                                                                                       | D4N-3E62 |                                                                                       | D4N-3F62 |
|                                                                                                                                       |              | M20           |                                                                                     | D4N-4C62 |                                                                                     | D4N-4D62 |                                                                                       | D4N-4E62 |                                                                                       | D4N-4F62 |
|                                                                                                                                       |              | M12 connector |                                                                                     | ---      |                                                                                     | ---      |                                                                                       | D4N-9E62 |                                                                                       | ---      |
|                                                                                                                                       | 2-conduit    | Pg13.5        |  | D4N-5C62 |  | D4N-5D62 |  | D4N-5E62 |  | D4N-5F62 |
|                                                                                                                                       |              | G1/2          |                                                                                     | D4N-6C62 |                                                                                     | D4N-6D62 |                                                                                       | D4N-6E62 |                                                                                       | D4N-6F62 |
|                                                                                                                                       |              | M20           |                                                                                     | D4N-8C62 |                                                                                     | D4N-8D62 |                                                                                       | D4N-8E62 |                                                                                       | D4N-8F62 |
|                                                                                                                                       |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|                                                                                                                                       |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
| One-way roller<br>arm lever<br>(vertical)<br>      | 1-conduit    | Pg13.5        |  | D4N-1C72 |  | D4N-1D72 |  | D4N-1E72 |  | D4N-1F72 |
|                                                                                                                                       |              | G1/2          |                                                                                     | D4N-2C72 |                                                                                     | D4N-2D72 |                                                                                       | D4N-2E72 |                                                                                       | D4N-2F72 |
|                                                                                                                                       |              | 1/2-14NPT     |                                                                                     | D4N-3C72 |                                                                                     | D4N-3D72 |                                                                                       | D4N-3E72 |                                                                                       | D4N-3F72 |
|                                                                                                                                       |              | M20           |                                                                                     | D4N-4C72 |                                                                                     | D4N-4D72 |                                                                                       | D4N-4E72 |                                                                                       | D4N-4F72 |
|                                                                                                                                       |              | M12 connector |                                                                                     | ---      |                                                                                     | ---      |                                                                                       | D4N-9E72 |                                                                                       | ---      |
|                                                                                                                                       | 2-conduit    | Pg13.5        |  | D4N-5C72 |  | D4N-5D72 |  | D4N-5E72 |  | D4N-5F72 |
|                                                                                                                                       |              | G1/2          |                                                                                     | D4N-6C72 |                                                                                     | D4N-6D72 |                                                                                       | D4N-6E72 |                                                                                       | D4N-6F72 |
|                                                                                                                                       |              | M20           |                                                                                     | D4N-8C72 |                                                                                     | D4N-8D72 |                                                                                       | D4N-8E72 |                                                                                       | D4N-8F72 |
|                                                                                                                                       |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |
|                                                                                                                                       |              |               |                                                                                     |          |                                                                                     |          |                                                                                       |          |                                                                                       |          |

| Actuator                                                                                                                                             | Conduit size |               | Built-in switch mechanism                                                         |          |                                                                                   |          |                                                                                     |          |                                                                                     |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|-----------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------|----------|
|                                                                                                                                                      |              |               | 2NC/1NO<br>(Slow-action)                                                          |          | 3NC<br>(Slow-action)                                                              |          | 1NC/1NO MBB<br>(Slow-action)                                                        |          | 2NC/1NO MBB<br>(Slow-action)                                                        |          |
|                                                                                                                                                      |              |               | Direct opening                                                                    | Model    | Direct opening                                                                    | Model    | Direct opening                                                                      | Model    | Direct opening                                                                      | Model    |
| Adjustable roller lever, form lock (metal lever, resin roller)<br>  | 1-conduit    | Pg13.5        |  | D4N-1C2G |  | D4N-1D2G |  | D4N-1E2G |  | D4N-1F2G |
|                                                                                                                                                      |              | G1/2          |                                                                                   | D4N-2C2G |                                                                                   | D4N-2D2G |                                                                                     | D4N-2E2G |                                                                                     | D4N-2F2G |
|                                                                                                                                                      |              | 1/2-14NPT     |                                                                                   | D4N-3C2G |                                                                                   | D4N-3D2G |                                                                                     | D4N-3E2G |                                                                                     | D4N-3F2G |
|                                                                                                                                                      |              | M20           |                                                                                   | D4N-4C2G |                                                                                   | D4N-4D2G |                                                                                     | D4N-4E2G |                                                                                     | D4N-4F2G |
|                                                                                                                                                      |              | M12 connector |                                                                                   | ---      |                                                                                   | ---      |                                                                                     | D4N-9E2G |                                                                                     | ---      |
|                                                                                                                                                      | 2-conduit    | G1/2          |  | D4N-6C2G |  | D4N-6D2G |  | D4N-6E2G |  | D4N-6F2G |
|                                                                                                                                                      |              | M20           |                                                                                   | D4N-8C2G |                                                                                   | D4N-8D2G |                                                                                     | D4N-8E2G |                                                                                     | D4N-8F2G |
| Adjustable roller lever, form lock (metal lever, rubber roller)<br> | 1-conduit    | Pg13.5        |  | D4N-1C2H |  | D4N-1D2H |  | D4N-1E2H |  | D4N-1F2H |
|                                                                                                                                                      |              | G1/2          |                                                                                   | D4N-2C2H |                                                                                   | D4N-2D2H |                                                                                     | D4N-2E2H |                                                                                     | D4N-2F2H |
|                                                                                                                                                      |              | 1/2-14NPT     |                                                                                   | D4N-3C2H |                                                                                   | D4N-3D2H |                                                                                     | D4N-3E2H |                                                                                     | D4N-3F2H |
|                                                                                                                                                      |              | M20           |                                                                                   | D4N-4C2H |                                                                                   | D4N-4D2H |                                                                                     | D4N-4E2H |                                                                                     | D4N-4F2H |
|                                                                                                                                                      |              | M12 connector |                                                                                   | ---      |                                                                                   | ---      |                                                                                     | D4N-9E2H |                                                                                     | ---      |
|                                                                                                                                                      | 2-conduit    | G1/2          |  | D4N-6C2H |  | D4N-6D2H |  | D4N-6E2H |  | D4N-6F2H |
|                                                                                                                                                      |              | M20           |                                                                                   | D4N-8C2H |                                                                                   | D4N-8D2H |                                                                                     | D4N-8E2H |                                                                                     | D4N-8F2H |

**Note:** It is recommended that M20 be used for Switches to be exported to Europe and 1/2-14NPT be used for Switches to be exported to North American countries.

## General-purpose Switches with Two Contacts

| Actuator                                                                                                                 | Conduit size |           | Built-in switch mechanism |          |                      |          |                          |          |                      |          |
|--------------------------------------------------------------------------------------------------------------------------|--------------|-----------|---------------------------|----------|----------------------|----------|--------------------------|----------|----------------------|----------|
|                                                                                                                          |              |           | 1NC/1NO<br>(Snap-action)  |          | 2NC<br>(Snap-action) |          | 1NC/1NO<br>(Slow-action) |          | 2NC<br>(Slow-action) |          |
|                                                                                                                          |              |           | Direct opening            | Model    | Direct opening       | Model    | Direct opening           | Model    | Direct opening       | Model    |
| Fork lever lock (right operation)<br> | 1-conduit    | G1/2      | ---                       | ---      | ---                  | ---      | ---                      | D4N-2ARE | ---                  | D4N-2BRE |
|                                                                                                                          |              | 1/2-14NPT |                           |          |                      |          |                          | D4N-3ARE |                      | D4N-3BRE |
|                                                                                                                          |              | M20       |                           |          |                      |          |                          | D4N-4ARE |                      | D4N-4BRE |
|                                                                                                                          | 2-conduit    | G1/2      | ---                       | ---      | ---                  | ---      | ---                      | D4N-6ARE | ---                  | D4N-6BRE |
|                                                                                                                          |              | M20       |                           |          |                      |          |                          | D4N-8ARE |                      | D4N-8BRE |
| Fork lever lock (left operation)<br>  | 1-conduit    | G1/2      | ---                       | ---      | ---                  | ---      | ---                      | D4N-2ALE | ---                  | D4N-2BLE |
|                                                                                                                          |              | 1/2-14NPT |                           |          |                      |          |                          | D4N-3ALE |                      | D4N-3BLE |
|                                                                                                                          |              | M20       |                           |          |                      |          |                          | D4N-4ALE |                      | D4N-4BLE |
|                                                                                                                          | 2-conduit    | G1/2      | ---                       | ---      | ---                  | ---      | ---                      | D4N-6ALE | ---                  | D4N-6BLE |
|                                                                                                                          |              | M20       |                           |          |                      |          |                          | D4N-8ALE |                      | D4N-8BLE |
| Cat whisker<br>                       | 1-conduit    | G1/2      | ---                       | D4N-2180 | ---                  | D4N-2280 | ---                      | ---      | ---                  | D4N-2B80 |
|                                                                                                                          |              | 1/2-14NPT |                           | D4N-3180 |                      | D4N-3280 |                          |          |                      | D4N-3B80 |
|                                                                                                                          |              | M20       |                           | D4N-4180 |                      | D4N-4280 |                          |          |                      | D4N-4B80 |
|                                                                                                                          | 2-conduit    | G1/2      | ---                       | D4N-6180 | ---                  | D4N-6280 | ---                      | ---      | ---                  | D4N-6B80 |
|                                                                                                                          |              | M20       |                           | D4N-8180 |                      | D4N-8280 |                          |          |                      | D4N-8B80 |
| Plastic rod<br>                       | 1-conduit    | G1/2      | ---                       | D4N-2187 | ---                  | D4N-2287 | ---                      | ---      | ---                  | D4N-2B87 |
|                                                                                                                          |              | 1/2-14NPT |                           | D4N-3187 |                      | D4N-3287 |                          |          |                      | D4N-3B87 |
|                                                                                                                          |              | M20       |                           | D4N-4187 |                      | D4N-4287 |                          |          |                      | D4N-4B87 |
|                                                                                                                          | 2-conduit    | G1/2      | ---                       | D4N-6187 | ---                  | D4N-6287 | ---                      | ---      | ---                  | D4N-6B87 |
|                                                                                                                          |              | M20       |                           | D4N-8187 |                      | D4N-8287 |                          |          |                      | D4N-8B87 |

**Note:** 1. It is recommended that M20 be used for Switches to be exported to Europe and 1/2-14NPT be used for Switches to be exported to North American countries.

2. Mechanically speaking, these models are basic limit switches.

## General-purpose Switches with Three Contacts and MBB Contacts

| Actuator                                                                                                               | Conduit size |           | Built-in switch mechanism |                       |                |                   |                |                           |                |                           |
|------------------------------------------------------------------------------------------------------------------------|--------------|-----------|---------------------------|-----------------------|----------------|-------------------|----------------|---------------------------|----------------|---------------------------|
|                                                                                                                        |              |           | Direct opening            | 2NC/1NO (Slow-action) | Direct opening | 3NC (Slow-action) | Direct opening | 1NC/1NO MBB (Slow-action) | Direct opening | 2NC/1NO MBB (Slow-action) |
| Fork lever lock (right operation)<br> | 1-conduit    | G1/2      | ---                       | D4N-2CRE              | ---            | D4N-2DRE          | ---            | D4N-2ERE                  | ---            | D4N-2FRE                  |
|                                                                                                                        |              | 1/2-14NPT |                           | D4N-3CRE              |                | D4N-3DRE          |                | D4N-3ERE                  |                | D4N-3FRE                  |
|                                                                                                                        |              | M20       |                           | D4N-4CRE              |                | D4N-4DRE          |                | D4N-4ERE                  |                | D4N-4FRE                  |
|                                                                                                                        | 2-conduit    | G1/2      | ---                       | D4N-6CRE              | ---            | D4N-6DRE          | ---            | D4N-6ERE                  | ---            | D4N-6FRE                  |
|                                                                                                                        |              | M20       |                           | D4N-8CRE              |                | D4N-8DRE          |                | D4N-8ERE                  |                | D4N-8FRE                  |
|                                                                                                                        |              |           |                           |                       |                |                   |                |                           |                |                           |
| Fork lever lock (left operation)<br>  | 1-conduit    | G1/2      | ---                       | D4N-2CLE              | ---            | D4N-2DLE          | ---            | D4N-2ELE                  | ---            | D4N-2FLE                  |
|                                                                                                                        |              | 1/2-14NPT |                           | D4N-3CLE              |                | D4N-3DLE          |                | D4N-3ELE                  |                | D4N-3FLE                  |
|                                                                                                                        |              | M20       |                           | D4N-4CLE              |                | D4N-4DLE          |                | D4N-4ELE                  |                | D4N-4FLE                  |
|                                                                                                                        | 2-conduit    | G1/2      | ---                       | D4N-6CLE              | ---            | D4N-6DLE          | ---            | D4N-6ELE                  | ---            | D4N-6FLE                  |
|                                                                                                                        |              | M20       |                           | D4N-8CLE              |                | D4N-8DLE          |                | D4N-8ELE                  |                | D4N-8FLE                  |
|                                                                                                                        |              |           |                           |                       |                |                   |                |                           |                |                           |
| Cat whisker<br>                       | 1-conduit    | G1/2      | ---                       | ---                   | ---            | D4N-2D80          | ---            | ---                       | ---            | ---                       |
|                                                                                                                        |              | 1/2-14NPT |                           |                       |                | D4N-3D80          |                |                           |                |                           |
|                                                                                                                        |              | M20       |                           |                       |                | D4N-4D80          |                |                           |                |                           |
|                                                                                                                        | 2-conduit    | G1/2      | ---                       | ---                   | ---            | D4N-6D80          | ---            | ---                       | ---            | ---                       |
|                                                                                                                        |              | M20       |                           |                       |                | D4N-8D80          |                |                           |                |                           |
|                                                                                                                        |              |           |                           |                       |                |                   |                |                           |                |                           |
| Plastic rod<br>                       | 1-conduit    | G1/2      | ---                       | ---                   | ---            | D4N-2D87          | ---            | ---                       | ---            | ---                       |
|                                                                                                                        |              | 1/2-14NPT |                           |                       |                | D4N-3D87          |                |                           |                |                           |
|                                                                                                                        |              | M20       |                           |                       |                | D4N-4D87          |                |                           |                |                           |
|                                                                                                                        | 2-conduit    | G1/2      | ---                       | ---                   | ---            | D4N-6D87          | ---            | ---                       | ---            | ---                       |
|                                                                                                                        |              | M20       |                           |                       |                | D4N-8D87          |                |                           |                |                           |
|                                                                                                                        |              |           |                           |                       |                |                   |                |                           |                |                           |

- Note:** 1. It is recommended that M20 be used for Switches to be exported to Europe and 1/2-14NPT be used for Switches to be exported to North American countries.  
2. Mechanically speaking, these models are basic limit switches.

## Specifications

### Standards and EC Directives

- Conforms to the following EC Directives:  
Machinery Directive  
Low Voltage Directive  
EN50047  
EN1088 (slow-action models only)  
GS-ET-15

### Approved Standards

| Agency              | Standard                              | File No.         |
|---------------------|---------------------------------------|------------------|
| TÜV Product Service | EN60947-5-1 (approved direct opening) | (See note 1.)    |
| UL (See note 2.)    | UL508, CSA C22.2 No.14                | E76675           |
| CCC (CQC)           | GB14048.5                             | 2004010305105973 |

- Note:** 1. Consult your OMRON representative for details.  
2. Approval for CSA C22.2 No. 14 is authorized by the UL mark.  
3. Ask your OMRON representative for information on approved models.

### Approved Standard Ratings

#### TÜV (EN60947-5-1), CCC (GB14048.5)

| Item                              | Utilization category | AC-15 | DC-13  |
|-----------------------------------|----------------------|-------|--------|
| Rated operating current ( $I_e$ ) |                      | 3 A   | 0.27 A |
| Rated operating voltage ( $U_e$ ) |                      | 240 V | 250 V  |

**Note:** Use a 10-A fuse type gI or gG that conforms to IEC269 as a short-circuit protection device. This fuse is not built into the Switch.

#### UL/CSA (UL508, CSA C22.2 No. 14)

##### A300

| Rated voltage | Carry current | Current |       | Volt-amperes |        |
|---------------|---------------|---------|-------|--------------|--------|
|               |               | Make    | Break | Make         | Break  |
| 120 VAC       | 10 A          | 60 A    | 6 A   | 7,200 VA     | 720 VA |
| 240 VAC       |               | 30 A    | 3 A   |              |        |

##### Q300

| Rated voltage | Carry current | Current |        | Volt-amperes |       |
|---------------|---------------|---------|--------|--------------|-------|
|               |               | Make    | Break  | Make         | Break |
| 125 VDC       | 2.5 A         | 0.55 A  | 0.55 A | 69 VA        | 69 VA |
| 250 VDC       |               | 0.27 A  | 0.27 A |              |       |

## ■ Characteristics

|                                               |             |                                                                                                                                                 |
|-----------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Degree of protection (See note 3.)            |             | IP67 (EN60947-5-1)                                                                                                                              |
| Durability<br>(See note 4.)                   | Mechanical  | 15,000,000 operations min. (See note 7.)                                                                                                        |
|                                               | Electrical  | 500,000 operations min. for a resistive load of 3 A at 250 VAC (See note 5.)<br>300,000 operations min. for a resistive load of 10 A at 250 VAC |
| Operating speed                               |             | 1 to 500 mm/s (D4N-1120)                                                                                                                        |
| Operating frequency                           |             | 30 operations/minute max.                                                                                                                       |
| Contact resistance                            |             | 25 mΩ max.                                                                                                                                      |
| Minimum applicable load (See note 6.)         |             | Resistive load of 1 mA at 5 VDC (N-level reference value)                                                                                       |
| Rated insulation voltage (U <sub>i</sub> )    |             | 300 V                                                                                                                                           |
| Protection against electric shock             |             | Class II (double insulation)                                                                                                                    |
| Pollution degree (operating environment)      |             | Level 3 (EN60947-5-1)                                                                                                                           |
| Impulse withstand voltage (EN60947-5-1)       |             | Between terminals of the same polarity: 2.5 kV                                                                                                  |
|                                               |             | Between terminals of different polarities: 4 kV                                                                                                 |
|                                               |             | Between other terminals and uncharged metallic parts: 6 kV                                                                                      |
| Insulation resistance                         |             | 100 MΩ min.                                                                                                                                     |
| Contact gap                                   |             | Snap-action: 2 x 0.5 mm min                                                                                                                     |
|                                               |             | Slow-action: 2 x 2 mm min                                                                                                                       |
| Vibration resistance                          | Malfunction | 10 to 55 Hz, 0.75-mm single amplitude                                                                                                           |
| Shock resistance                              | Destruction | 1,000 m/s <sup>2</sup> min.                                                                                                                     |
|                                               | Malfunction | 300 m/s <sup>2</sup> min.                                                                                                                       |
| Conditional short-circuit current             |             | 100 A (EN60947-5-1)                                                                                                                             |
| Rated open thermal current (I <sub>th</sub> ) |             | 10 A (EN60947-5-1)                                                                                                                              |
| Ambient temperature                           |             | Operating: -30°C to 70°C with no icing                                                                                                          |
| Ambient humidity                              |             | Operating: 95% max.                                                                                                                             |
| Weight                                        |             | Approx. 82 g (D4N-1120)                                                                                                                         |
|                                               |             | Approx. 99 g (D4N-5120)                                                                                                                         |

**Note:** 1. The above values are initial values.

- Once a contact has been used to switch a standard load, it cannot be used for a load of a smaller capacity. Doing so may result in roughening of the contact surface and contact reliability may be lost.
- The degree of protection is tested using the method specified by the standard (EN60947-5-1). Confirm that sealing properties are sufficient for the operating conditions and environment beforehand. Although the switch box is protected from dust or water penetration, do not use the D4N in places where foreign material such as dust, dirt, oil, water, or chemicals may penetrate through the head. Otherwise, premature wear, Switch damage or malfunctioning may occur.
- The durability is for an ambient temperature of 5°C to 35°C and an ambient humidity of 40% to 70%. For more details, consult your OMRON representative.
- If the ambient temperature is greater than 35°C, do not pass the 3-A, 250-VAC load through more than 2 circuits.
- This value will vary with the switching frequency, environment, and reliability level. Confirm that correct operation is possible with the actual load beforehand.
- The mechanical durability of fork lever lock models is 10,000,000 operations min.

# Connections

## ■ Contact Form

| Model   | Contact                   | Contact form | Operating pattern | Remarks                                                                                                                                                           |
|---------|---------------------------|--------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D4N-□1□ | 1NC/1NO (Snap-action)     |              |                   | Only NC contacts 31-32 have an approved direct opening mechanism. (→)<br><br>The terminals 13-14 and 31-32 can be used as unlike poles.                           |
| D4N-□2□ | 2NC (Snap-action)         |              |                   | Only NC contacts 11-12 and 31-32 have an approved direct opening mechanism. (→)<br><br>The terminals 11-12 and 31-32 can be used as unlike poles.                 |
| D4N-□A□ | 1NC/1NO (Slow-action)     |              |                   | Only NC contacts 11-12 have an approved direct opening mechanism. (→)<br><br>The terminals 11-12 and 33-34 can be used as unlike poles.                           |
| D4N-□B□ | 2NC (Slow-action)         |              |                   | Only NC contacts 11-12 and 31-32 have an approved direct opening mechanism. (→)<br><br>The terminals 11-12 and 31-32 can be used as unlike poles.                 |
| D4N-□C□ | 2NC/1NO (Slow-action)     |              |                   | Only NC contacts 11-12 and 21-22 have an approved direct opening mechanism. (→)<br><br>The terminals 11-12, 21-22, and 33-34 can be used as unlike poles.         |
| D4N-□D□ | 3NC (Slow-action)         |              |                   | Only NC contacts 11-12, 21-22, and 31-32 have an approved direct opening mechanism. (→)<br><br>The terminals 11-12, 21-22, and 31-32 can be used as unlike poles. |
| D4N-□E□ | 1NC/1NO MBB (Slow-action) |              |                   | Only NC contacts 11-12 have an approved direct opening mechanism. (→)<br><br>The terminals 11-12 and 33-34 can be used as unlike poles.                           |
| D4N-□F□ | 2NC/1NO MBB (Slow-action) |              |                   | Only NC contacts 11-12 and 21-22 have an approved direct opening mechanism. (→)<br><br>The terminals 11-12, 21-22 and 33-34 can be used as unlike poles.          |

**Note:** 1. Terminals are numbered according to EN50013 and the contact forms are according to IEC947-5-1.

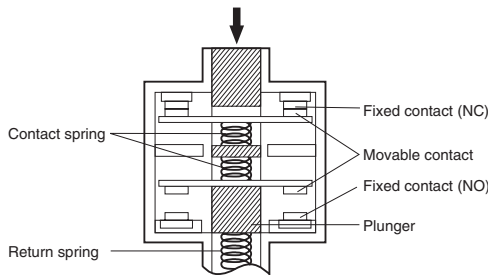
2. MBB (Make Before Break) contacts have an overlapping structure, so that before the normally closed contact (NC) opens, the normally open contact (NO) closes.



# Operation

## ■ Direct Opening Mechanism

### 1NC/1NO Contact (Slow-action)

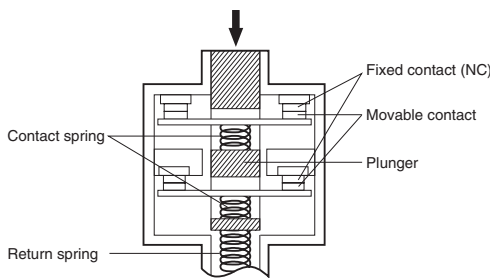


Conforms to EN60947-5-1 Direct Opening Operation ⊖

(Only the NC contact side has a direct opening mechanism.)

When contact welding occurs, the contacts are separated from each other by the plunger being pushed in.

### 2NC Contact (Slow-action)



Conforms to EN60947-5-1 Direct Opening Operation ⊖

(Both NC contacts have a direct opening mechanism.)

# Nomenclature

## ■ Structure

### Safety-oriented Lever Setting (Form-lock construction)

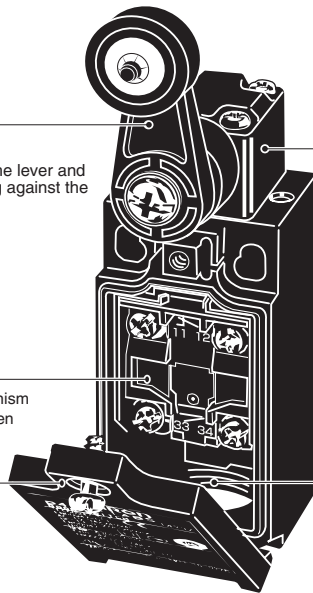
Grooves which engage the lever are cut in the lever and rotary shaft to prevent the lever from slipping against the rotary shaft. There are resin-lever and metal-lever types.

### Built-in Switch

The built-in switch has a direct opening mechanism that forcibly separates the NC contact even when there is contact deposit.

### Cover

The cover, with a hinge on its lower part, can be opened by removing the screw of the cover, which ensures ease of maintenance and wiring.



### Head

The direction of the switch head can be varied to any of the four directions. (Roller plunger models can be mounted in either of two directions at a 90° angle.)

### Conduit Opening

A wide variety of conduits is available.

| Size          | 1-conduit | 2-conduit |
|---------------|-----------|-----------|
| Pg13.5        | Yes       | Yes       |
| G1/2          | Yes       | Yes       |
| 1/2-14NPT     | Yes       | Yes       |
| M20           | Yes       | Yes       |
| M12 connector | Yes       | ---       |

**Note:** M12 connector types are not available for Switches with three contacts.

## Dimensions

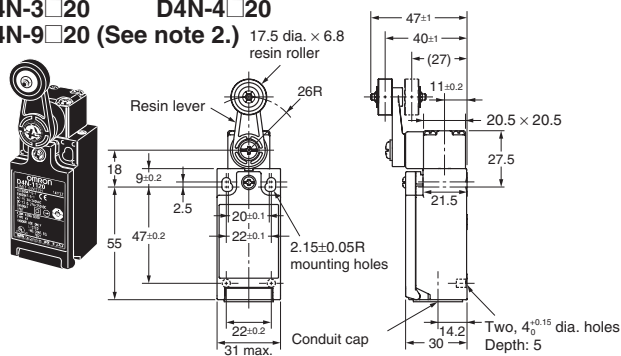
## ■ Switches

**Note:** All units are in millimeters unless otherwise indicated.

## 1-conduit Models

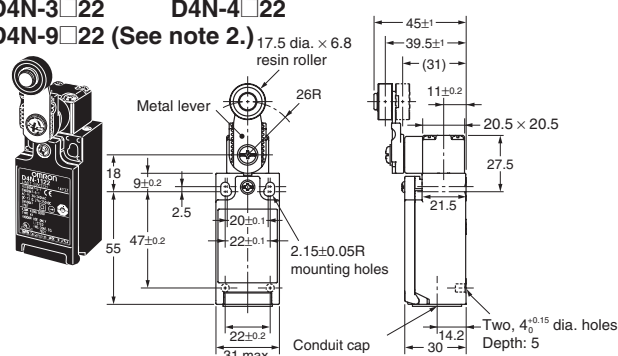
### Roller Lever (Resin Lever, Resin Roller)

D4N-1 ☐ 20      D4N-2 ☐ 20  
D4N-3 ☐ 20      D4N-4 ☐ 20  
D4N-9 ☐ 20 (See note 2.) 17.



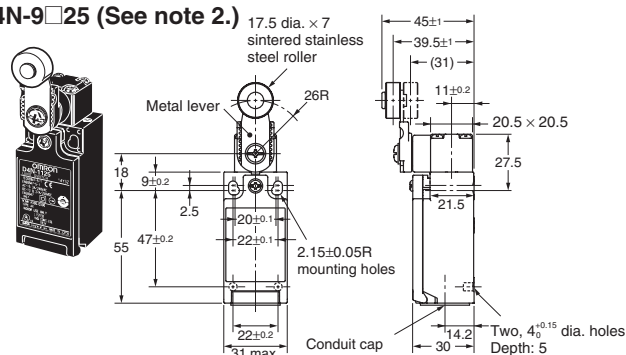
### Roller Lever (Metal Lever, Resin Roller)

D4N-1□22      D4N-2□22  
D4N-3□22      D4N-4□22  
D4N-9□22 (See note 2.)<sup>17.5</sup>



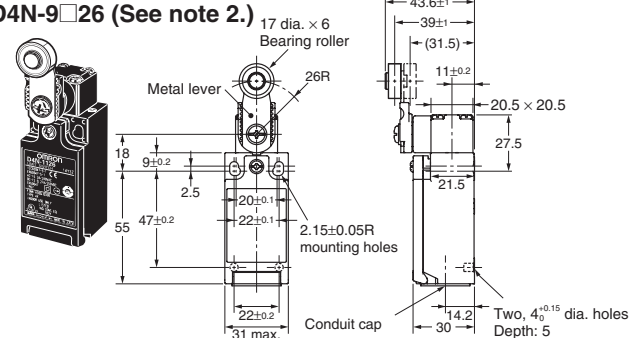
### Roller Lever (Metal Lever, Metal Roller)

D4N-1□25      D4N-2□25  
D4N-3□25      D4N-4□25  
D4N-9□25 (See note 2.) 17



### Roller Lever (Metal Lever, Bearing Roller)

D4N-1 ☐ 26      D4N-2 ☐ 26  
D4N-3 ☐ 26      D4N-4 ☐ 26  
D4N-9 ☐ 26 (See note 2.) 17c



**Note:** 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.  
2. Refer to page B-17 for details on M12 connectors.

**Snap-action (1NC/1NO) (2NC), Slow-action (2NC) (3NC)**

| Model                     | D4N-□120<br>D4N-□220<br>D4N-□B20<br>D4N-□D20 | D4N-□122<br>D4N-□222<br>D4N-□B22<br>D4N-□D22 | D4N-□125<br>D4N-□225<br>D4N-□B25<br>D4N-□D25 | D4N-□126<br>D4N-□226<br>D4N-□B26<br>D4N-□D26 |
|---------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
| OF max.                   | 5.0 N                                        |                                              |                                              |                                              |
| RF min.                   | 0.5 N                                        |                                              |                                              |                                              |
| PT                        | 18° to 27°                                   |                                              |                                              |                                              |
| OT min.                   | 40°                                          |                                              |                                              |                                              |
| MD max.<br>(See note 2.)  | 14°                                          |                                              |                                              |                                              |
| OP                        | ---                                          |                                              |                                              |                                              |
| TT<br>(See note 3.)       | (80°)                                        |                                              |                                              |                                              |
| DOT min.<br>(See note 4.) | 50°                                          |                                              |                                              |                                              |
| DOF min.<br>(See note 4.) | 20 N                                         |                                              |                                              |                                              |

**Note:**

1. Variation occurs in the simultaneity of contact opening/closing operations of 2NC, 2NC/1NO, and 3NC contacts. Check contact operation.
2. Only for snap-action models.
3. Reference value.
4. Only for slow-action models. For safe use, always make sure that the minimum values or greater are provided.

### Slow-action (1NC/1NO) (2NC/1NO)

| Model                     | D4N-□A20<br>D4N-□C20<br>D4N-□E20<br>D4N-□F20 | D4N-□A22<br>D4N-□C22<br>D4N-□E22<br>D4N-□F22 | D4N-□A25<br>D4N-□C25<br>D4N-□E25<br>D4N-□F25 | D4N-□A26<br>D4N-□C26<br>D4N-□E26<br>D4N-□F26 |
|---------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
| OF max.                   | 5.0 N                                        |                                              |                                              |                                              |
| RF min.                   | 0.5 N                                        |                                              |                                              |                                              |
| PT (See note 1.)          | 18° to 27°                                   |                                              |                                              |                                              |
| PT (2nd) (See note 2.)    | (44°)                                        |                                              |                                              |                                              |
| PT (See note 3.)          | 27.5° to 36.5°                               |                                              |                                              |                                              |
| PT (2nd) (See note 4.)    | (18°)                                        |                                              |                                              |                                              |
| OT min.                   | 40°                                          |                                              |                                              |                                              |
| OP                        | ---                                          |                                              |                                              |                                              |
| TT (See note 5.)          | (80°)                                        |                                              |                                              |                                              |
| DOT min.<br>(See note 6.) | 50°                                          |                                              |                                              |                                              |
| DOF min.<br>(See note 6.) | 20 N                                         |                                              |                                              |                                              |

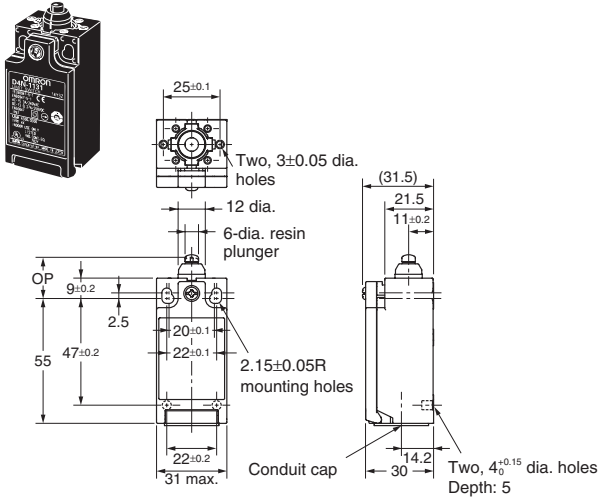
**Note:**

1. These PT values are possible when the NC contacts are open (OFF).
2. These PT values are possible when the NO contacts are closed (ON).
3. Only for MBB models.
4. Reference values for MBB models only.
5. Reference values.
6. For safe use, always make sure that the minimum values or greater are provided.

# 1-conduit Models

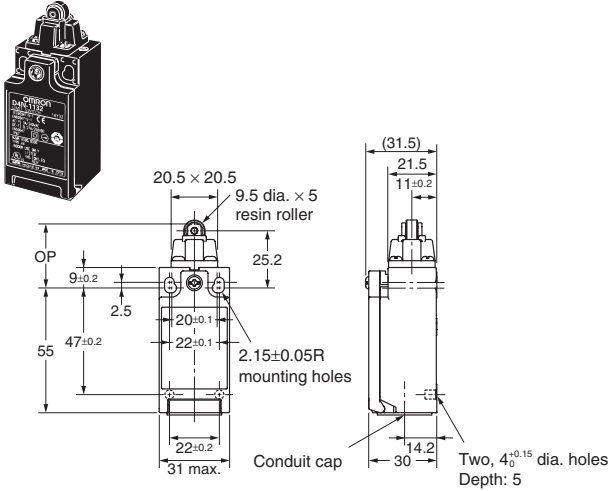
## Plunger

D4N-1□31 D4N-2□31  
D4N-3□31 D4N-4□31  
D4N-9□31 (See note 2.)



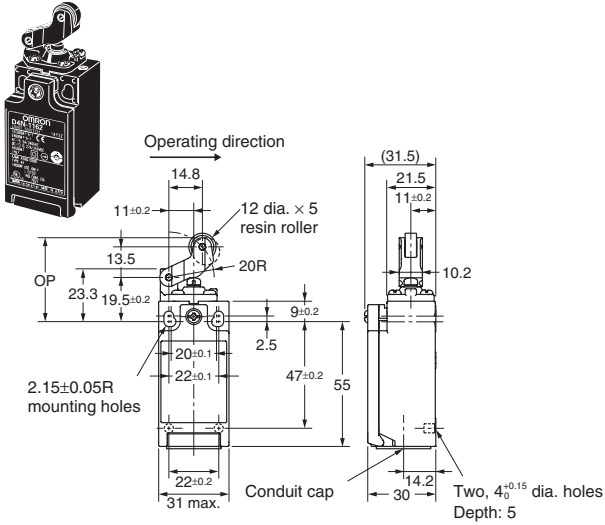
## Roller Plunger

D4N-1□32 D4N-2□32  
D4N-3□32 D4N-4□32  
D4N-9□32 (See note 2.)



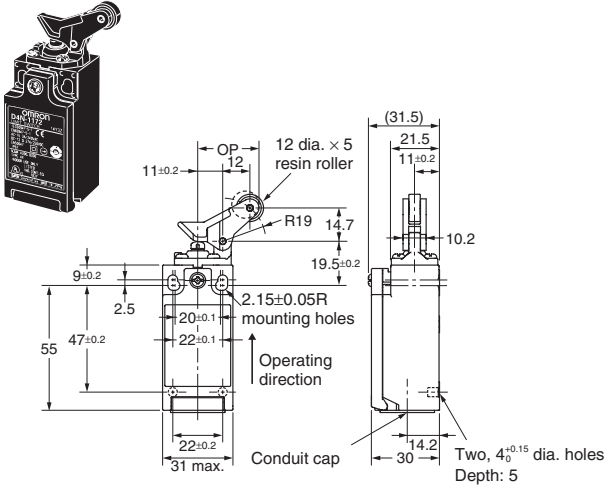
## One-way Roller Arm Lever (Horizontal)

D4N-1□62 D4N-2□62  
D4N-3□62 D4N-4□62  
D4N-9□62 (See note 2.)



## One-way Roller Arm Lever (Vertical)

D4N-1□72 D4N-2□72  
D4N-3□72 D4N-4□72  
D4N-9□72 (See note 2.)



**Note:** 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.  
2. Refer to page B-17 for details on M12 connectors.

## Snap-action (1NC/1NO) (2NC), Slow-action (2NC) (3NC)

| Model                     | D4N-□131<br>D4N-□231<br>D4N-□B31<br>D4N-□D31 | D4N-□132<br>D4N-□232<br>D4N-□B32<br>D4N-□D32 | D4N-□162<br>D4N-□262<br>D4N-□B62<br>D4N-□D62 | D4N-□172<br>D4N-□272<br>D4N-□B72<br>D4N-□D72 |
|---------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
| OF max.                   | 6.5 N                                        | 6.5 N                                        | 5.0 N                                        | 5.0 N                                        |
| RF min.                   | 1.5 N                                        | 1.5 N                                        | 0.8 N                                        | 0.8 N                                        |
| PT max.                   | 2 mm                                         | 2 mm                                         | 4 mm                                         | 4 mm                                         |
| OT min.                   | 4 mm                                         | 4 mm                                         | 5 mm                                         | 5 mm                                         |
| MD max.<br>(See note 2.)  | 1 mm                                         | 1 mm                                         | 1.5 mm                                       | 1.5 mm                                       |
| OP                        | 18.2<br>±0.5 mm                              | 28.6<br>±0.8 mm                              | 37 ±0.8 mm                                   | 27 ±0.8 mm                                   |
| TT<br>(See note 3.)       | (6 mm)                                       | (6 mm)                                       | (9 mm)                                       | (9 mm)                                       |
| DOT min.<br>(See note 4.) | 3.2 mm                                       | 3.2 mm                                       | 5.8 mm                                       | 4.8 mm                                       |
| DOF min.<br>(See note 4.) | 20 N                                         | 20 N                                         | 20 N                                         | 20 N                                         |

- Note:**
1. Variation occurs in the simultaneity of contact opening/closing operations of 2NC, 2NC/1NO, and 3NC contacts. Check contact operation.
  2. Only for snap-action models.
  3. Reference value.
  4. Only for slow-action models. For safe use, always make sure that the minimum values or greater are provided.

## Slow-action (1NC/1NO) (2NC/1NO)

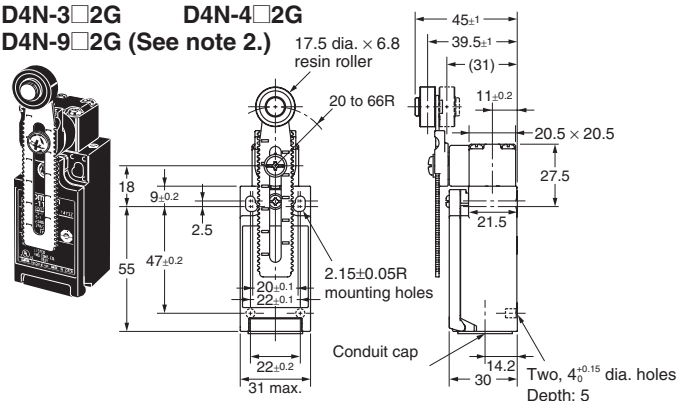
| Model                     | D4N-□A31<br>D4N-□C31<br>D4N-□E31<br>D4N-□F31 | D4N-□A32<br>D4N-□C32<br>D4N-□E32<br>D4N-□F32 | D4N-□A62<br>D4N-□C62<br>D4N-□E62<br>D4N-□F62 | D4N-□A72<br>D4N-□C72<br>D4N-□E72<br>D4N-□F72 |
|---------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
| OF max.                   | 6.5 N                                        | 6.5 N                                        | 5.0 N                                        | 5.0 N                                        |
| RF min.                   | 1.5 N                                        | 1.5 N                                        | 0.8 N                                        | 0.8 N                                        |
| PT max.<br>(See note 1.)  | 2 mm                                         | 2 mm                                         | 4 mm                                         | 4 mm                                         |
| PT (2nd)<br>(See note 2.) | (2.9 mm)                                     | (2.9 mm)                                     | (5.2 mm)                                     | (4.3 mm)                                     |
| PT max.<br>(See note 3.)  | 2.8 mm                                       | 2.8 mm                                       | 4 mm                                         | 4 mm                                         |
| PT (2nd)<br>(See note 4.) | (1 mm)                                       | (1 mm)                                       | (1.5 mm)                                     | (1.5 mm)                                     |
| OT min.                   | 4 mm                                         | 4 mm                                         | 5 mm                                         | 5 mm                                         |
| OP                        | 18.2<br>±0.5 mm                              | 28.6<br>±0.8 mm                              | 37 ±0.8 mm                                   | 27 ±0.8 mm                                   |
| OP<br>(See note 5.)       | 17.4<br>±0.5 mm                              | 28 ±0.8 mm                                   | 36 ±0.8 mm                                   | 26.1<br>±0.8 mm                              |
| TT<br>(See note 6.)       | (6 mm)                                       | (6 mm)                                       | (9 mm)                                       | (9 mm)                                       |
| DOT min.<br>(See note 7.) | 3.2 mm                                       | 3.2 mm                                       | 5.8 mm                                       | 4.8 mm                                       |
| DOF min.<br>(See note 7.) | 20 N                                         | 20 N                                         | 20 N                                         | 20 N                                         |

- Note:**
1. These PT values are possible when the NC contacts are open (OFF).
  2. These PT values are possible when the NO contacts are closed (ON).
  3. Only for MBB models.
  4. Reference values for MBB models.
  5. Only for MBB models.
  6. Reference value.
  7. For safe use, always make sure that the minimum values or greater are provided.

## 1-conduit Models

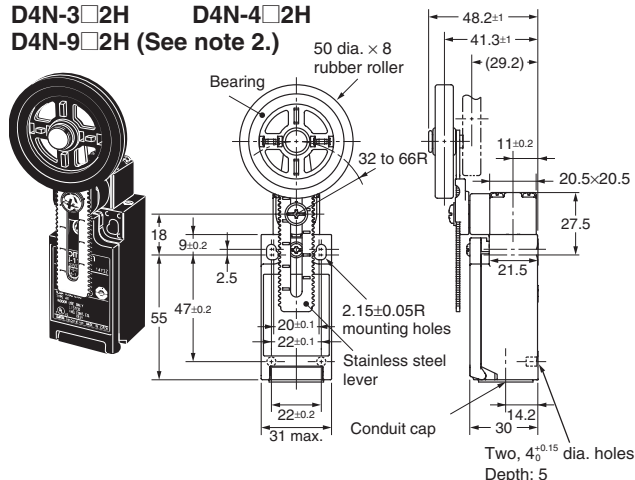
### Adjustable Roller Lever, Form Lock (with Metal Lever, Resin Roller)

D4N-1□2G      D4N-2□2G  
D4N-3□2G      D4N-4□2G  
D4N-9□2G (See note 2.) 1



### Adjustable Roller Lever, Form Lock (with Metal Lever, Rubber Roller)

D4N-1□2H      D4N-2□2H  
D4N-3□2H      D4N-4□2H  
D4N-9□2H (See note 2.)



**Note:** 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.  
2. Refer to following diagrams for details on M12 connectors.

### Snap-action (1NC/1NO) (2NC), Slow-action (2NC) (3NC)

| Model                  | D4N-□12H<br>D4N-□22H<br>D4N-□B2H<br>D4N-□D2H | D4N-□12G<br>D4N-□22G<br>D4N-□B2G<br>D4N-□D2G<br>(See note 2.) |
|------------------------|----------------------------------------------|---------------------------------------------------------------|
| OF max.                | 4.5 N                                        |                                                               |
| RF min.                | 0.4 N                                        |                                                               |
| PT                     | 18° to 27°                                   |                                                               |
| OT min.                | 40°                                          |                                                               |
| MD max. (See note 3.)  | 14°                                          |                                                               |
| OP                     | ---                                          |                                                               |
| TT (See note 4.)       | (80°)                                        |                                                               |
| DOT min. (See note 5.) | 50°                                          |                                                               |
| DOF min. (See note 5.) | 20 N                                         |                                                               |

**Note:**

1. Variation occurs in the simultaneity of contact opening/closing operations of 2NC, 2NC/1NO, and 3NC contacts. Check contact operation.
2. The operating characteristics of these Switches were measured with the roller lever set at 32 mm.
3. Only for snap-action models.
4. Reference value.
5. Only for slow-action models. For safe use, always make sure that the minimum values or greater are provided.

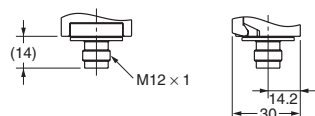
### Slow-action (1NC/1NO) (2NC/1NO)

| Model                  | D4N-□A2H<br>D4N-□C2H<br>D4N-□E2H<br>D4N-□F2H | D4N-□A2G<br>D4N-□C2G<br>D4N-□E2G<br>D4N-□F2G<br>(See note 1.) |
|------------------------|----------------------------------------------|---------------------------------------------------------------|
| OF max.                | 4.5 N                                        |                                                               |
| RF min.                | 0.4 N                                        |                                                               |
| PT (See note 2.)       | 18° to 27°                                   |                                                               |
| PT (2nd) (See note 3.) | (44°)                                        |                                                               |
| PT (See note 4.)       | 27.5° to 36.5°                               |                                                               |
| PT (2nd) (See note 5.) | (18°)                                        |                                                               |
| OT min.                | 40°                                          |                                                               |
| OP                     | ---                                          |                                                               |
| TT (See note 6.)       | (80°)                                        |                                                               |
| DOT min.               | 50°                                          |                                                               |
| DOF min. (See note 7.) | 20 N                                         |                                                               |

**Note:**

1. The operating characteristics of these Switches were measured with the roller lever set at 32 mm.
2. This PT value is possible when the NC contacts are open (OFF).
3. This PT value is possible when the NO contacts are closed (ON).
4. Only for MBB models.
5. Reference value for MBB models only.
6. Reference value.
7. For safe use, always make sure that the minimum values or greater are provided.

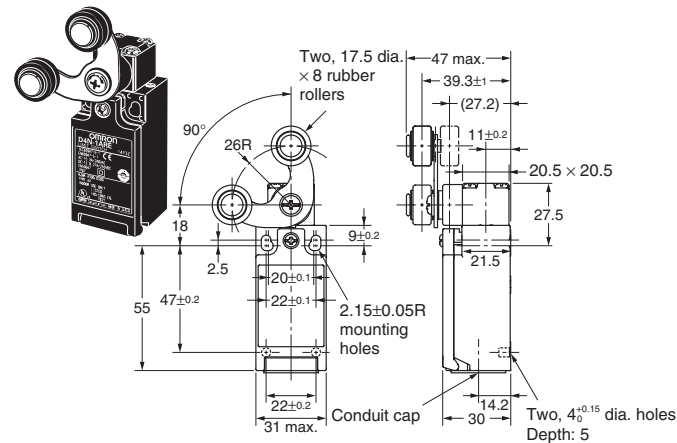
**1-conduit M12 Connector**  
D4N-9□□□



# 1-conduit Models

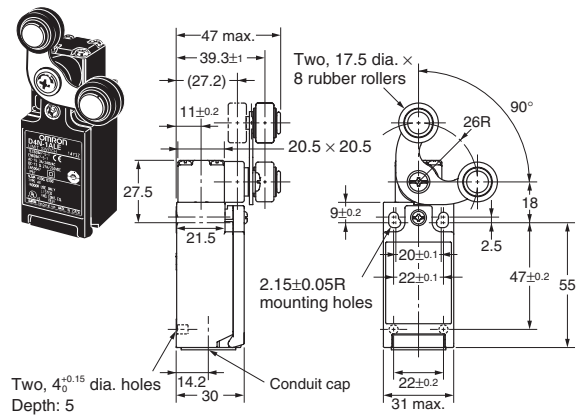
## Fork Lever Lock (Right Operation)

D4N-1□RE D4N-2□RE  
D4N-3□RE D4N-4□RE



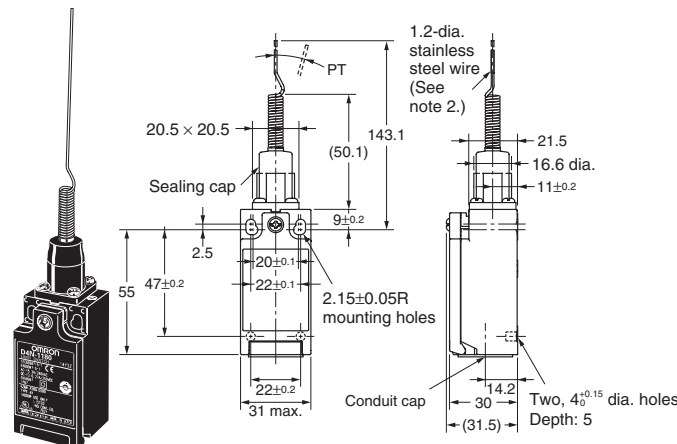
## Fork Lever Lock (Left Operation)

D4N-1□LE D4N-2□LE  
D4N-3□LE D4N-4□LE



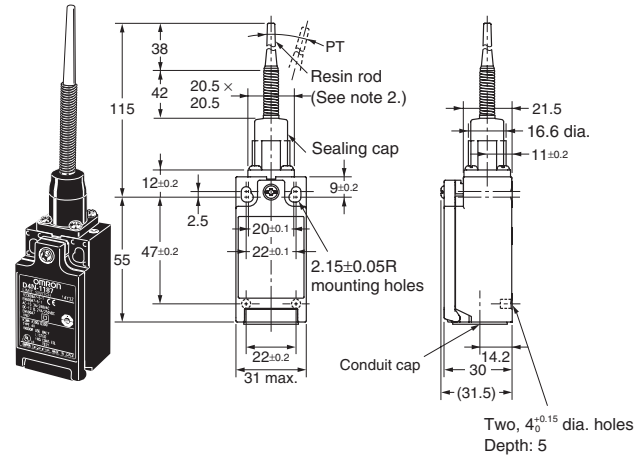
## Cat Whisker

D4N-1□80 D4N-2□80  
D4N-3□80 D4N-4□80



## Plastic Rod

D4N-1□87 D4N-2□87  
D4N-3□87 D4N-4□87



**Note:** 1. Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.

2. The usable range for stainless steel wires and resin rods is 35 mm max. from the end with a total travel of 70 mm max.

## Slow-action (1NC/1NO) (2NC/1NO) (2NC) (3NC)

| Model                                                       | D4N-□□RE           | D4N-□□LE           |
|-------------------------------------------------------------|--------------------|--------------------|
| Force necessary to reverse the direction of the lever: max. | 6.4 N              | 6.4 N              |
| Movement until the lever reverses                           | 55 ±10°            | 55 ±10°            |
| Movement until switch operation (NC)                        | 6.5°<br>(MBB: 10°) | 6.5°<br>(MBB: 10°) |
| Movement until switch operation (NO)                        | 18.5°<br>(MBB: 5°) | 18.5°<br>(MBB: 5°) |
| DOT min.                                                    | 30°                | 30°                |
| DOF min.                                                    | 20 N               | 20 N               |

**Note:** Variation occurs in the simultaneity of contact opening/closing operations of 2NC, 2NC/1NO, and 3NC contacts. Check contact operation.

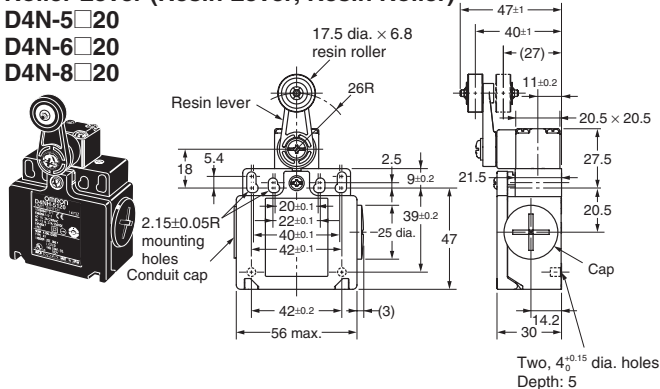
## Snap-action (1NC/1NO) (2NC), Slow-action (2NC) (3NC)

| Model   | D4N-□□80 | D4N-□□87 |
|---------|----------|----------|
| OF max. | 1.5 N    | 1.5 N    |
| PT max. | 15°      | 15°      |

## 2-conduit Models

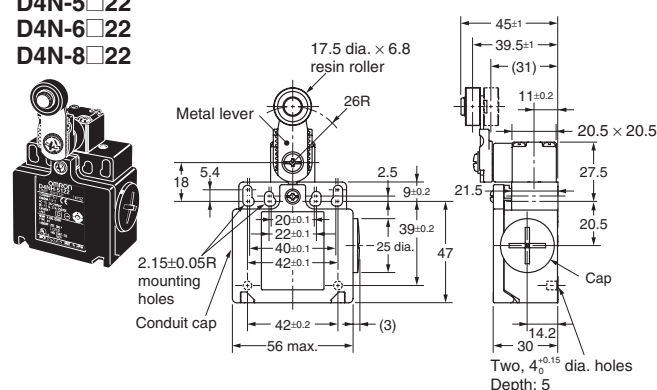
### Roller Lever (Resin Lever, Resin Roller)

D4N-5□20  
D4N-6□20  
D4N-8□20



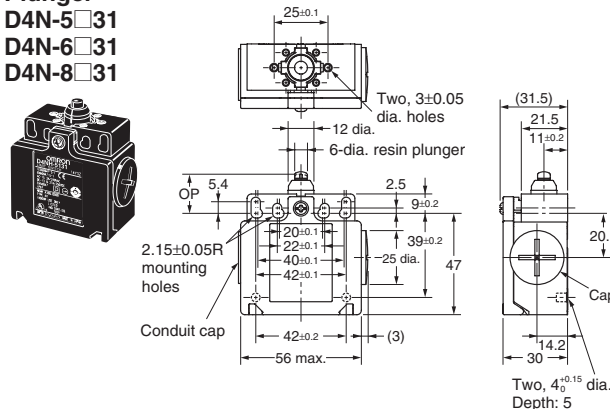
### Roller Lever (Metal Lever, Resin Roller)

D4N-5□22  
D4N-6□22  
D4N-8□22



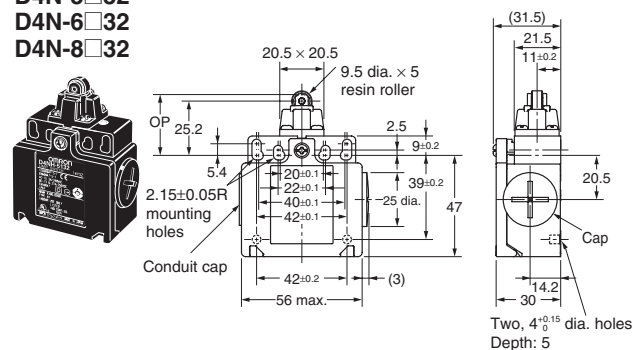
### Plunger

D4N-5□31  
D4N-6□31  
D4N-8□31



### Roller Plunger

D4N-5□32  
D4N-6□32  
D4N-8□32



**Note:** Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

## Snap-action (1NC/1NO) (2NC), Slow-action (2NC) (3NC)

| Model                     | D4N-□120<br>D4N-□220<br>D4N-□B20<br>D4N-□D20 | D4N-□122<br>D4N-□222<br>D4N-□B22<br>D4N-□D22 | D4N-□131<br>D4N-□231<br>D4N-□B31<br>D4N-□D31 | D4N-□132<br>D4N-□232<br>D4N-□B32<br>D4N-□D32 |
|---------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
| OF max.                   | 5 N                                          | 5 N                                          | 6.5 N                                        | 6.5 N                                        |
| RF min.                   | 0.5 N                                        | 0.5 N                                        | 1.5 N                                        | 1.5 N                                        |
| PT                        | 18° to 27°                                   | 18° to 27°                                   | 2 mm                                         | 2 mm                                         |
| OT min.                   | 40°                                          | 40°                                          | 4 mm                                         | 4 mm                                         |
| MD max.<br>(See note 2.)  | 14°                                          | 14°                                          | 1 mm                                         | 1 mm                                         |
| OP                        | ---                                          | ---                                          | 18 ±0.5 mm                                   | 28.2 ±0.8 mm                                 |
| TT<br>(See note 3.)       | (80°)                                        | (80°)                                        | (6 mm)                                       | (6 mm)                                       |
| DOT min.<br>(See note 4.) | 50°                                          | 50°                                          | 3.2 mm                                       | 3.2 mm                                       |
| DOF min.<br>(See note 4.) | 20 N                                         | 20 N                                         | 20 N                                         | 20 N                                         |

**Note:** 1. Variation occurs in the simultaneity of contact opening/closing operations of 2NC, 2NC/1NO, and 3NC contacts. Check contact operation.  
2. Only for snap-action models.  
3. Reference value.  
4. Only for slow-action models. For safe use, always make sure that the minimum values or greater are provided.

## Slow-action (1NC/1NO) (2NC/1NO)

| Model                     | D4N-□A20<br>D4N-□C20<br>D4N-□E20<br>D4N-□F20 | D4N-□A22<br>D4N-□C22<br>D4N-□E22<br>D4N-□F22 | D4N-□A31<br>D4N-□C31<br>D4N-□E31<br>D4N-□F31 | D4N-□A32<br>D4N-□C32<br>D4N-□E32<br>D4N-□F32 |
|---------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
| OF max.                   | 5 N                                          | 5 N                                          | 6.5 N                                        | 6.5 N                                        |
| RF min.                   | 0.5 N                                        | 0.5 N                                        | 1.5 N                                        | 1.5 N                                        |
| PT<br>(See note 1.)       | 18° to 27°                                   | 18° to 27°                                   | 2 mm                                         | 2 mm                                         |
| PT (2nd)<br>(See note 2.) | (44°)                                        | (44°)                                        | (2.9 mm)                                     | (2.9 mm)                                     |
| PT<br>(See note 3.)       | 27.5° to 36.5°                               | 27.5° to 36.5°                               | 2.8 mm                                       | 2.8 mm                                       |
| PT (2nd)<br>(See note 4.) | (18°)                                        | (18°)                                        | (1 mm)                                       | (1 mm)                                       |
| OT min.                   | 40°                                          | 40°                                          | 4 mm                                         | 4 mm                                         |
| OP                        | ---                                          | ---                                          | 18 ±0.5 mm                                   | 28.2 ±0.8 mm                                 |
| OP<br>(See note 5.)       | ---                                          | ---                                          | 17.4 ±0.5 mm                                 | 28 ±0.8 mm                                   |
| TT<br>(See note 6.)       | (80°)                                        | (80°)                                        | (6 mm)                                       | (6 mm)                                       |
| DOT min.<br>(See note 7.) | 50°                                          | 50°                                          | 3.2 mm                                       | 3.2 mm                                       |
| DOF min.<br>(See note 7.) | 20 N                                         | 20 N                                         | 20 N                                         | 20 N                                         |

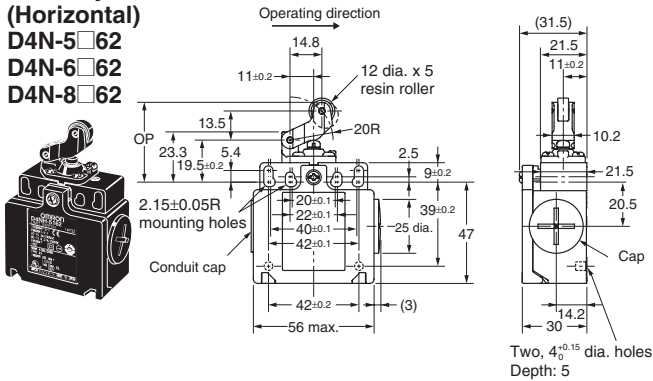
**Note:** 1. This PT value is possible when the NC contacts are open (OFF).  
2. This PT value is possible when the NO contacts are closed (ON).  
3. Only for MBB models.  
4. Reference value for MBB models.  
5. Only for MBB models.  
6. Reference value.  
7. For safe use, always make sure that the minimum values or greater are provided.



## 2-conduit Models

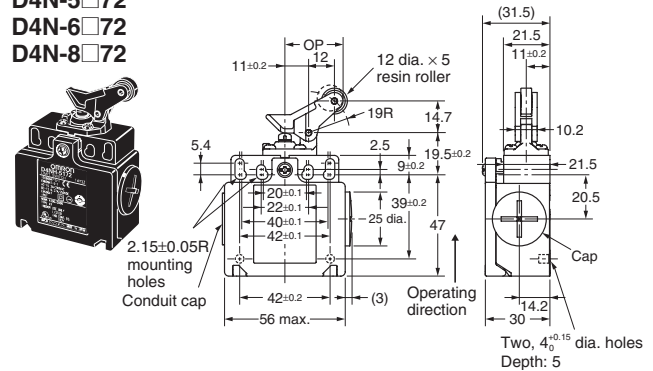
### One-way Roller Arm Lever (Horizontal)

D4N-5□62  
D4N-6□62  
D4N-8□62



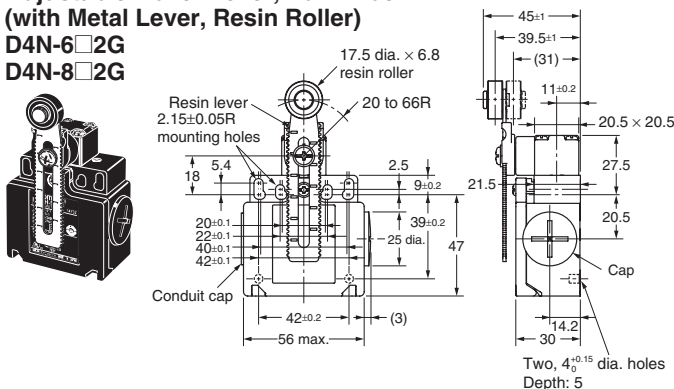
### One-way Roller Arm Lever (Vertical)

D4N-5□72  
D4N-6□72  
D4N-8□72



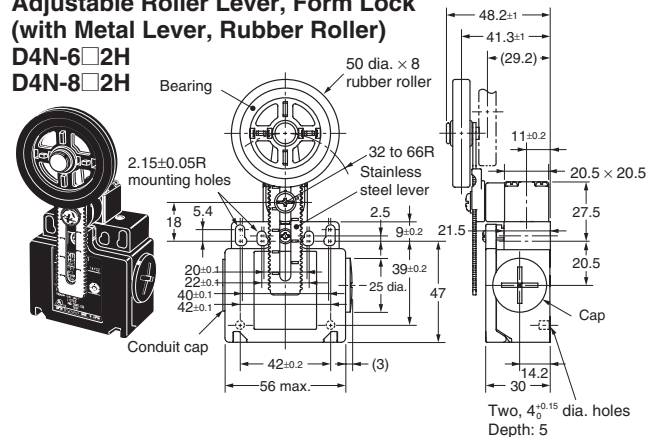
### Adjustable Roller Lever, Form Lock (with Metal Lever, Resin Roller)

D4N-6□2G  
D4N-8□2G



### Adjustable Roller Lever, Form Lock (with Metal Lever, Rubber Roller)

D4N-6□2H  
D4N-8□2H



**Note:** Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

## Snap-action (1NC/1NO) (2NC), Slow-action (2NC) (3NC)

| Model                     | D4N-□162<br>D4N-□262<br>D4N-□B62<br>D4N-□D62 | D4N-□172<br>D4N-□272<br>D4N-□B72<br>D4N-□D72 | D4N-□12G<br>D4N-□22G<br>D4N-□B2G<br>D4N-□D2G<br>(See note 2.) | D4N-□12H<br>D4N-□22H<br>D4N-□B2H<br>D4N-□D2H<br>(See note 3.) |
|---------------------------|----------------------------------------------|----------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| OF max.                   | 5.0 N                                        | 5.0 N                                        | 4.5 N                                                         | 4.5 N                                                         |
| RF min.                   | 0.8 N                                        | 0.8 N                                        | 0.4 N                                                         | 0.4 N                                                         |
| PT max.                   | 4 mm                                         | 4 mm                                         | 18° to 27°                                                    | 18° to 27°                                                    |
| OT min.                   | 5 mm                                         | 5 mm                                         | 40°                                                           | 40°                                                           |
| MD max.<br>(See note 4.)  | 1.5 mm                                       | 1.5 mm                                       | 14°                                                           | 14°                                                           |
| OP                        | 37 ±0.8 mm                                   | 27 ±0.8 mm                                   | ---                                                           | ---                                                           |
| TT<br>(See note 5.)       | (9 mm)                                       | (9 mm)                                       | (70°)                                                         | (70°)                                                         |
| DOT min.<br>(See note 6.) | 5.8 mm                                       | 4.8 mm                                       | 50°                                                           | 50°                                                           |
| DOF min.<br>(See note 6.) | 20 N                                         | 20 N                                         | 20 N                                                          | 20 N                                                          |

- Note:**
- Variation occurs in the simultaneity of contact opening/closing operations of 2NC, 2NC/1NO, and 3NC contacts. Check contact operation.
  - The operating characteristics of these Switches were measured with the roller lever set at 30 mm.
  - The operating characteristics of these Switches were measured with the roller lever set at 31 mm.
  - Only for snap-action models.
  - Reference value.
  - Only for slow-action models. For safe use, always make sure that the minimum values or greater are provided.

## Slow-action (1NC/1NO) (2NC/1NO)

| Model                     | D4N-□A62<br>D4N-□C62<br>D4N-□E62<br>D4N-□F62 | D4N-□A72<br>D4N-□C72<br>D4N-□E72<br>D4N-□F72 | D4N-□A2G<br>D4N-□C2G<br>D4N-□E2G<br>D4N-□F2G<br>(See note 1.) | D4N-□A2H<br>D4N-□C2H<br>D4N-□E2H<br>D4N-□F2H<br>(See note 2.) |
|---------------------------|----------------------------------------------|----------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| OF max.                   | 5.0 N                                        | 5.0 N                                        | 4.5 N                                                         | 4.5 N                                                         |
| RF min.                   | 0.8 N                                        | 0.8 N                                        | 0.4 N                                                         | 0.4 N                                                         |
| PT max.<br>(See note 3.)  | 4 mm                                         | 4 mm                                         | 18° to 27°                                                    | 18° to 27°                                                    |
| PT (2nd)<br>(See note 4.) | (5.2 mm)                                     | (4.3 mm)                                     | (44°)                                                         | (44°)                                                         |
| PT max.<br>(See note 5.)  | 4 mm                                         | 4 mm                                         | 27.5° to 36.5°                                                | 27.5° to 36.5°                                                |
| PT (2nd)<br>(See note 6.) | (1.5 mm)                                     | (1.5 mm)                                     | (18°)                                                         | (18°)                                                         |
| OT min.                   | 5 mm                                         | 5 mm                                         | 40°                                                           | 40°                                                           |
| OP                        | 37 ±0.8 mm                                   | 27 ±0.8 mm                                   | ---                                                           | ---                                                           |
| OP<br>(See note 7.)       | 36 ±0.8 mm                                   | 26.1 ±0.8 mm                                 | ---                                                           | ---                                                           |
| TT<br>(See note 8.)       | (9 mm)                                       | (9 mm)                                       | (70°)                                                         | (70°)                                                         |
| DOT min.<br>(See note 9.) | 5.8 mm                                       | 4.8 mm                                       | 50°                                                           | 50°                                                           |
| DOF min.<br>(See note 9.) | 20 N                                         | 20 N                                         | 20 N                                                          | 20 N                                                          |

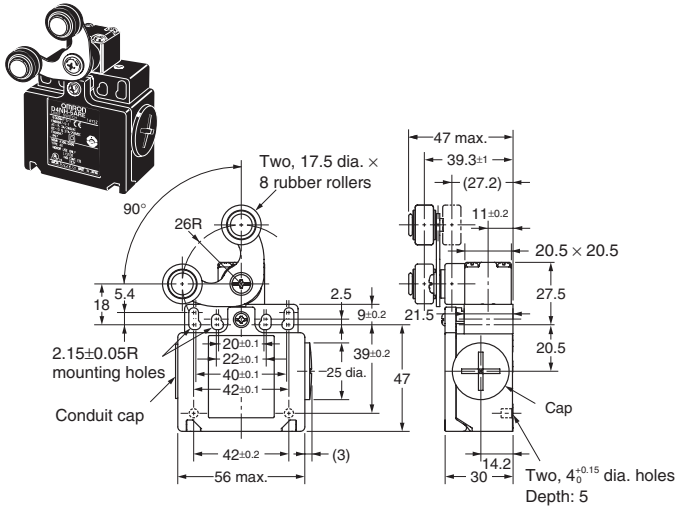
- Note:**
- The operating characteristics of these Switches were measured with the roller lever set at 30 mm.
  - The operating characteristics of these Switches were measured with the roller lever set at 31 mm.
  - This PT value is possible when the NC contacts are open (OFF).
  - This PT value is possible when the NO contacts are closed (ON).
  - Only for MBB models.
  - Reference value for MBB models only.
  - Only for MBB models.
  - Reference value.
  - For safe use, always make sure that the minimum values or greater are provided.



# 2-conduit Models

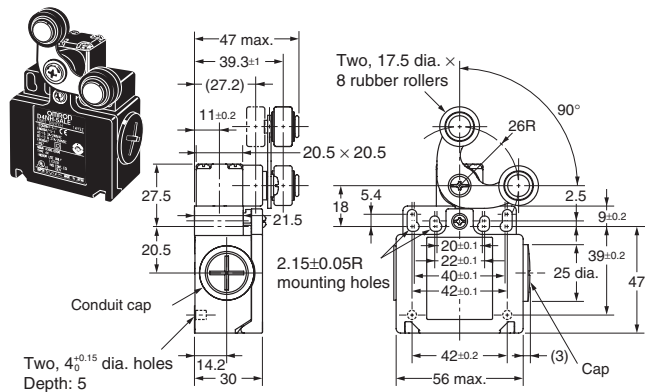
## Fork Lever Lock (Right Operation)

D4N-5□RE D4N-6□RE  
D4N-7□RE D4N-8□RE



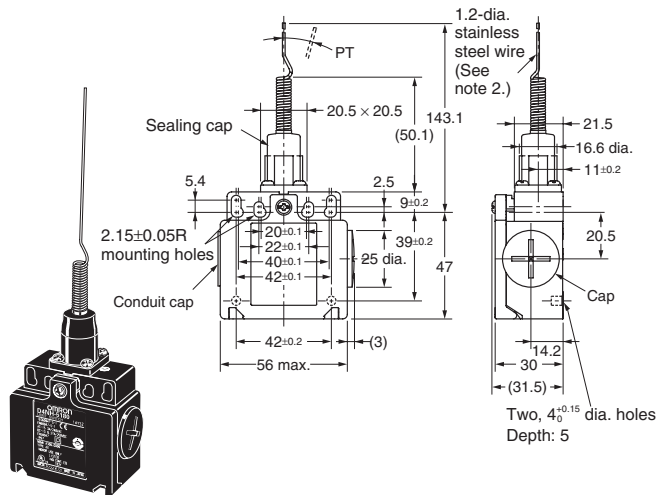
## Fork Lever Lock (Left Operation)

D4N-5□LE D4N-6□LE  
D4N-7□LE D4N-8□LE



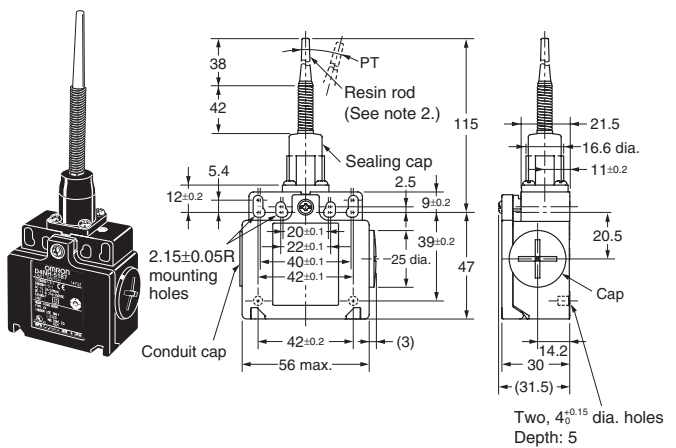
## Cat Whisker

D4N-5□80 D4N-6□80  
D4N-7□80 D4N-8□80



## Plastic Rod

D4N-5□87 D4N-6□87  
D4N-7□87 D4N-8□87



**Note:** 1. Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.  
2. The usable range for stainless steel wires and resin rods is 35 mm max. from the end with a total travel of 70 mm max.

## Slow-action (1NC/1NO) (2NC), Slow-action (2NC) (3NC)

| Model                                                       | D4N-□□RE | D4N-□□LE             |
|-------------------------------------------------------------|----------|----------------------|
| Force necessary to reverse the direction of the lever: max. | 6.4 N    | 6.4 N                |
| Movement until the lever reverses                           | 55 ±10°  | 55 ±10°              |
| Movement until switch operation (NC)                        | (6.5°)   | (6.5°)<br>(MBB: 10°) |
| Movement until switch operation (NO)                        | (18.5°)  | (18.5°)<br>(MBB: 5°) |

**Note:** Variation occurs in the simultaneity of contact opening/closing operations of 2NC, 2NC/1NO, and 3NC contacts. Check contact operation.

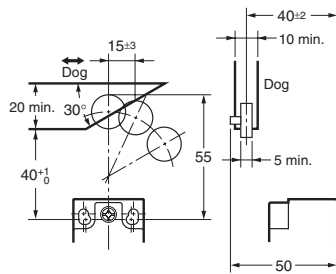
## Snap-action (1NC/1NO), Slow-action (2NC) (3NC)

| Model   | D4N-□□80 | D4N-□□87 |
|---------|----------|----------|
| OF max. | 1.5 N    | 1.5 N    |
| PT max. | 15°      | 15°      |

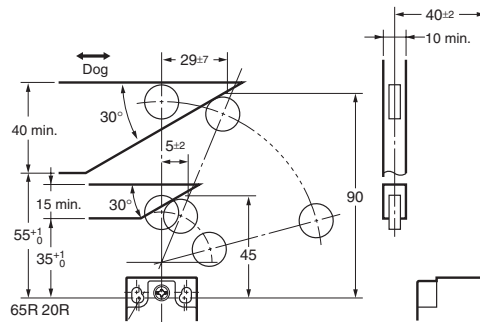
## Levers

Refer to the following for the angles and positions of the watchdogs (source: EN50047.)

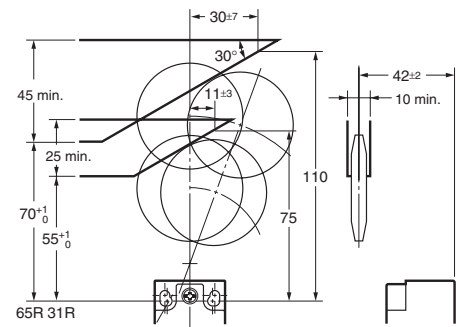
### Roller Lever (D4N-□□20)



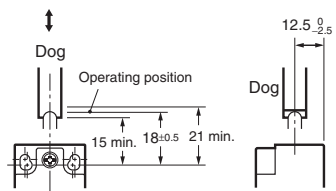
### Adjustable Roller Lever, Form Lock (with Metal Lever, Resin Roller) (D4N-□□2G) (Reference Values)



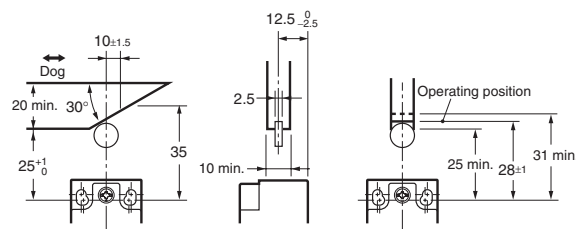
### Adjustable Roller Lever, Form Lock (with Metal Lever, Rubber Roller) (D4N-□□2H) (Reference Values)



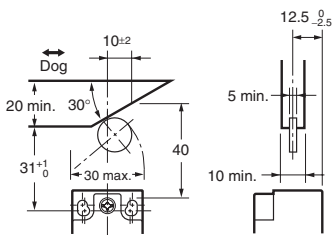
### Sealed Plunger (D4N-□□31)



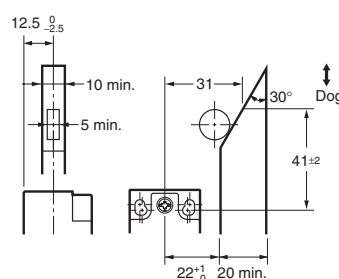
### Roller Plunger (D4N-□□32)



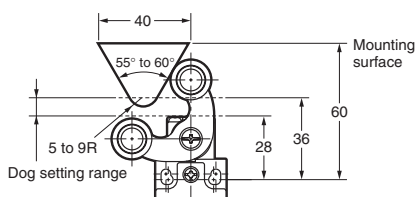
### One-way Roller Arm Lever (Horizontal) (D4N-□□62)



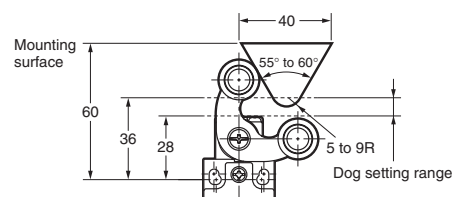
### One-way Roller Arm Lever (Vertical) (Reference Values) (D4N-□□62)



### Fork Lever Lock (Right Operation) (D4N-□□RE)



### Fork Lever Lock (Left Operation) (D4N-□□LE)



**Note:** Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

# Safety Precautions

Refer to the "Precautions for All Switches" on page I-2 and "Precautions for All Safety Limit Switches" on page B-2.

## CAUTION

Do not use metal connectors or conduits. If the Switch is made of resin, damage at the conduit section may cause electric shock.



## Precautions for Safe Use

- Do not drop the Switch. Doing so may result in the Switch not performing to its full capacity.
- Do not attempt to disassemble or modify the Switch. Doing so may cause the Switch to malfunction.
- Do not use the Switch where explosive gas or flammable gas may be present.
- Do not use the Switch submerged in oil or water, or in locations continuously subject to splashes of oil or water. Doing so may result in oil or water entering the Switch interior. (The IP67 degree of protection specification for the Switch refers to water penetration while the Switch is submersed in water for a specified period of time.)
- Protect the head from foreign material. Subjecting the head to foreign material may result in premature wear or damage to the Switch. Although the switch body is protected from penetration by dust or water, the head is not protected from penetration by minute particles or water.
- Turn the power OFF before wiring. Not doing so may result in electric shock.
- Install the cover after wiring. Not doing so may result in electric shock.
- Connect a fuse to the Switch in series to protect the Switch from short-circuit damage. Use a fuse with a breaking current 1.5 to 2 times larger than the rated current. To conform to EN ratings, use an IEC60269-compliant 10-A fuse type gI or gG.
- Do not switch circuits for two or more standard loads (250 VAC, 3 A) at the same time. Doing so may adversely affect insulation performance.
- The durability of the Switch is greatly affected by operating conditions. Evaluate the Switch under actual working conditions before permanent installation and use within a number of switching operations that will not adversely affect the Switch's performance.
- Be sure to indicate in the machine manufacturer's instruction manual that the user must not attempt to repair or maintain the Switch and must contact the machine manufacturer for any repairs or maintenance.
- Check the Switches before use and inspect regularly, replacing them when necessary. If a Switch is kept pressed for an extended period of time, the components may deteriorate quickly, and the Switch may not release.

## Precautions for Correct Use

### Environment

- The Switch is intended for indoor use only.
- Do not use the Switch outdoors. Doing so may cause the Switch to malfunction.
- Do not use the Switch where corrosive gases (e.g., H<sub>2</sub>S, SO<sub>2</sub>, NH<sub>3</sub>, HNO<sub>3</sub>, Cl<sub>2</sub>) are present or in locations subject to high temperature and humidity. Doing so may result in damage to the Switch caused by contact failure or corrosion.
- Do not use the Switches in the following locations.
  - Locations subject to severe temperature changes
  - Locations subject to high temperatures or condensation
  - Locations subject to severe vibration

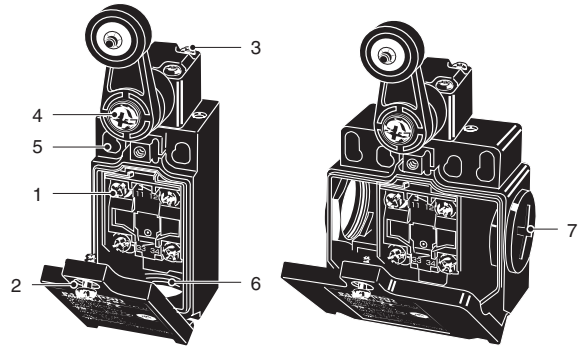
- Locations where the interior of the Protective Door may come into direct contact with cutting chips, metal filings, oil, or chemicals
- Locations where the Switch may come into contact with thinner or detergents

## Mounting Method

### Mounting Screw Tightening Torque

Tighten each of the screws to the specified torque. Loose screws may result in malfunction of the Switch within a short time.

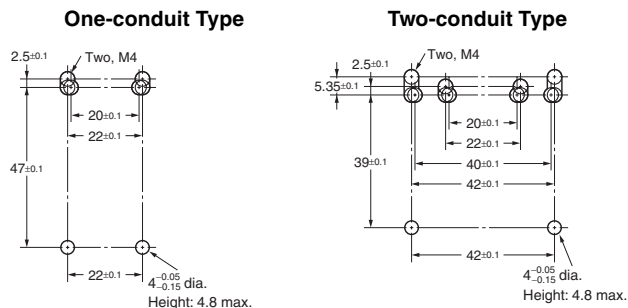
|   |                                          |                                                                 |
|---|------------------------------------------|-----------------------------------------------------------------|
| 1 | Terminal screw                           | 0.6 to 0.8 N·m                                                  |
| 2 | Cover clamping screw                     | 0.5 to 0.7 N·m                                                  |
| 3 | Head clamping screw                      | 0.5 to 0.6 N·m                                                  |
| 4 | Lever clamping screw                     | 1.6 to 1.8 N·m                                                  |
| 5 | Body clamping screw                      | 0.5 to 0.7 N·m                                                  |
| 6 | Conduit mounting connection, M12 adaptor | 1.8 to 2.2 N·m (except 1/2-14NPT)<br>1.4 to 1.8 N·m (1/2-14NPT) |
| 7 | Cap screw                                | 1.3 to 1.7 N·m                                                  |



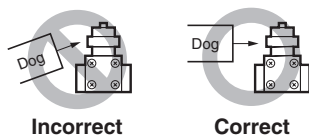
### Switch Mounting

- Mount the Switch using M4 screws and washers and tighten the screws to the specified torque.
- For safety, use screws that cannot be easily removed, or use an equivalent measure to ensure that the Switch is secure.
- Secure the Switch with two M4 bolts and washers. Provide studs with a diameter of  $4_{-0.15}^{-0.05}$  and a height of 4.8 mm max. at two places, inserting into the holes at the bottom of the Switch as shown below so that the Switch is firmly fixed at four points.

### Switch Mounting Holes



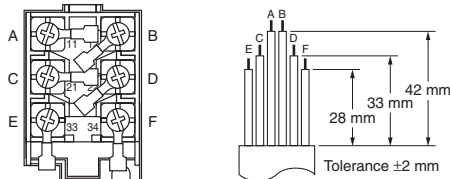
- Make sure that the dog contacts the actuator at a right angle. Applying a load to the switch actuator (roller) on a slant may result in deformation or damage of the actuator or rotary shaft.



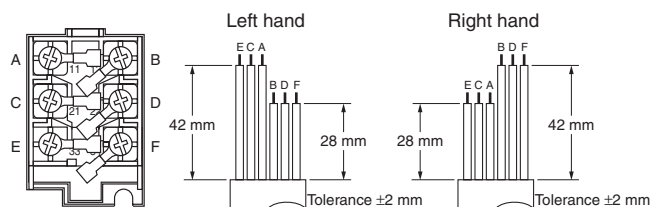
## Wiring

- When connecting to the terminals via insulating tube and M3.5 crimp terminals, arrange the crimp terminals as shown below so that they do not rise up onto the case or the cover. Applicable lead wire size: AWG20 to AWG18 (0.5 to 0.75 mm<sup>2</sup>). Use lead wires of an appropriate length, as shown below. Not doing so may result in excess length causing the cover to rise and not fit properly.

### One-conduit Type (3 Poles)



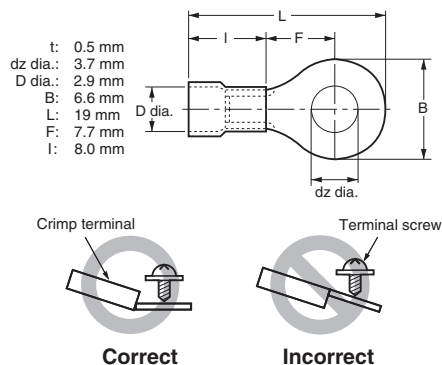
### Two-conduit Type (3 Poles)



- Do not push crimp terminals into gaps in the case interior. Doing so may cause damage or deformation of the case.
- Use crimp terminals not more than 0.5 mm in thickness. Otherwise, they will interfere with other components inside the case. The crimp terminals shown below are not more than 0.5 mm thick.

| Manufacture | Type                                           | Wire size                    |
|-------------|------------------------------------------------|------------------------------|
| J.S.T.      | FV0.5-3.7 (F type)<br>V0.5-3.7 (straight type) | AWG20 (0.5 mm <sup>2</sup> ) |

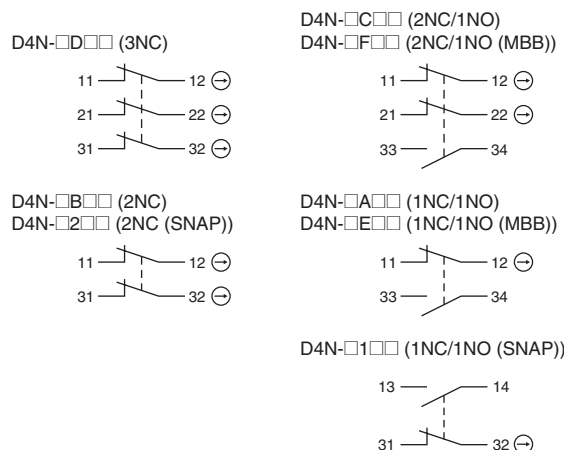
J.S.T is a Japanese manufacturer.



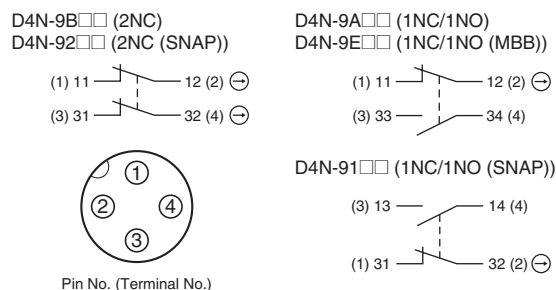
## Contact Arrangement

- The following diagrams show the contact arrangements used for screw terminal types and connector types.

### Screw Terminal Type



### Connector Type



Pin No. (Terminal No.)

- Applicable socket: XS2F (OMRON).
- Refer to the *Connector Catalog* for details on socket pin numbers and lead wire colors.

## Socket Tightening (Connector Type)

- Turn the socket connector screws by hand and tighten until no space remains between the socket and the plug.
- Make sure that the socket connector is tightened securely. Otherwise, the rated degree of protection (IP67) may not be maintained and vibration may loosen the socket connector.

## Conduit Opening

- Connect a recommended connector to the opening of the conduit and tighten the connector to the specified torque. The case may be damaged if an excessive tightening torque is applied.
- When using 1/2-14NPT, wind sealing tape around the joint between the connector and conduit opening so that the enclosure will conform to IP67.
- Use a cable with a suitable diameter for the connector.
- Attach and tighten a conduit cap to the unused conduit opening when wiring. Tighten the conduit cap to the specified torque. The conduit cap is provided with the Switch (2-conduit types).

## Changing the Lever

The lever mounting screws can be used to set the lever position to any position in a 360° angle at 7.5° increments. Grooves are incised on the lever and rotary shaft that engage to prevent the lever from slipping against the rotary shaft. The screws on adjustable roller lever models can also loosened to change the length of the lever.

Remove the screws from the front of the lever before mounting the lever in reverse (front/back), and set the level so that operation will be completed before exceeding a range of 180° on the horizontal.

## Recommended Connectors

Use connectors with screws not exceeding 9 mm, otherwise the screws will protrude into the case interior, interfering with other components in the case. The connectors listed in the following table have connectors with thread sections not exceeding 9 mm. Use the recommended connectors to ensure conformance to IP67.

| Size      | Manufacturer | Model                     | Applicable cable diameter |
|-----------|--------------|---------------------------|---------------------------|
| G1/2      | LAPP         | ST-PF1/2<br>5380-1002     | 6.0 to 12.0 mm            |
| Pg13.5    | LAPP         | ST-13.5<br>5301-5030      | 6.0 to 12.0 mm            |
| M20       | LAPP         | ST-M20 × 1.5<br>5311-1020 | 7.0 to 13.0 mm            |
| 1/2-14NPT | LAPP         | ST-NPT1/2<br>5301-6030    | 6.0 to 12.0 mm            |
| M12       | LAPP         | ST-M12 × 1.5<br>5311-1000 | 3.5 to 7.0 mm             |

Use LAPP connectors together with seal packing (JPK-16, GP-13.5, GPM20, or GPM12), and tighten to the specified tightening torque. Seal packing is sold separately.

LAPP is a German manufacturer.

Before using an M12 type, attaching the provided changing adaptor to the Switch and then connect the recommended connector.

Before using a 2-conduit 1/2-14NPT type, attach the provided changing adaptor to the Switch and then connect the recommended connector.

## Storage

Do not store the Switch in locations where corrosive gases (e.g., H<sub>2</sub>S, SO<sub>2</sub>, NH<sub>3</sub>, HNO<sub>3</sub>, Cl<sub>2</sub>) or dust is present, or in locations subject to high temperatures and humidity.

## Others

- Do not allow the load current to exceed the rated value.
- Confirm that the seal rubber has no defects before use. If the seal rubber is displaced or raised, or has foreign particles adhered to it, the sealing capability of the seal rubber will be adversely affected.
- Use the correct cover mounting screws only, or the sealing capability of the seal rubber will deteriorate.
- Inspect the Switch regularly.
- Make sure that foreign particles do not enter the head when removing the screws from the four corners to change the head position in any of the four directions.
- Use the following recommended countermeasures to prevent telegraphing when using adjustable or long levers.
  1. Make the rear edge of the dog smooth with an angle of 15° to 30° or make it in the shape of a quadratic curve.
  2. Design the circuit so that no error signal will be generated.
  3. Use or set a Switch that is operated in one direction only.

## Production Discontinuation

Following the release of the D4N, production of the D4D-N will be discontinued.

### Date of Production Discontinuation

Production of the D4D-N Series will be discontinued as of the end of March 2006.

### Product Replacement

#### 1. Dimensions

The D4D-N and D4N use the same mounting method, and mounting hole. The multi-contact structure and the extra 4 mm in length, however, are different.

#### 2. Terminal Numbers

For the 2-contact slow-action model, the terminals 21, 22, 23, and 24 on the D4D-N are 31, 32, 33, and 34 on the D4N.

#### 3. Recommended Terminals

If the recommended terminals are not used, the Switch may not be compatible. Make sure that the Switch is compatible with the terminals.

## Comparison of the D4D-N and Substitute Products

|                           |                         |
|---------------------------|-------------------------|
| Model                     | D4N                     |
| Switch color              | Very similar            |
| Dimensions                | Very similar            |
| Wiring/connection         | Significantly different |
| Mounting method           | Completely compatible   |
| Ratings/performance       | Very similar            |
| Operating characteristics | Very similar            |
| Operating method          | Completely compatible   |

Dimensions (Unit: mm)

| Discontinued Models (1-conduit Plunger-type D4D-N) | Replacement Products (1-conduit Plunger-type D4N) |
|----------------------------------------------------|---------------------------------------------------|
|                                                    |                                                   |
| Discontinued Models (2-conduit Plunger-type D4D-N) | Replacement Products (2-conduit Plunger-type D4N) |
|                                                    |                                                   |

## List of Recommended Substitute Products

■ : The actuator on the D4D-N is a non-safety type. The D4N is recommended for safety applications (form lock type). Be sure to mount it correctly.

■ : M screws are recommended to comply with European standards. Therefore, the M20 type is recommended as a substitute when the Pg13.5 conduit-type is not available in a D4N model.

### Safety Limit Switches

| D4D-N product to be discontinued | Recommended substitute product | D4D-N product to be discontinued | Recommended substitute product | D4D-N product to be discontinued | Recommended substitute product |
|----------------------------------|--------------------------------|----------------------------------|--------------------------------|----------------------------------|--------------------------------|
| D4D-1120N                        | D4N-1120                       | D4D-1520N                        | D4N-1A20                       | D4D-1A20N                        | D4N-1B20                       |
| D4D-2120N                        | D4N-2120                       | D4D-2520N                        | D4N-2A20                       | D4D-2A20N                        | D4N-2B20                       |
| D4D-3120N                        | D4N-3120                       | D4D-3520N                        | D4N-3A20                       | D4D-3A20N                        | D4N-3B20                       |
| D4D-5120N                        | D4N-5120                       | D4D-5520N                        | D4N-5A20                       | D4D-5A20N                        | D4N-5B20                       |
| D4D-6120N                        | D4N-6120                       | D4D-6520N                        | D4N-6A20                       | D4D-6A20N                        | D4N-6B20                       |
| D4D-1122N                        | D4N-1122                       | D4D-1522N                        | D4N-1A22                       | D4D-1A22N                        | D4N-1B22                       |
| D4D-2122N                        | D4N-2122                       | D4D-2522N                        | D4N-2A22                       | D4D-2A22N                        | D4N-2B22                       |
| D4D-3122N                        | D4N-3122                       | D4D-3522N                        | D4N-3A22                       | D4D-3A22N                        | D4N-3B22                       |
| D4D-5122N                        | D4N-5122                       | D4D-5522N                        | D4N-5A22                       | D4D-5A22N                        | D4N-5B22                       |
| D4D-6122N                        | D4N-6122                       | D4D-6522N                        | D4N-6A22                       | D4D-6A22N                        | D4N-6B22                       |
| D4D-1125N                        | D4N-1125                       | D4D-1525N                        | D4N-1A25                       | D4D-1A25N                        | D4N-1B25                       |
| D4D-2125N                        | D4N-2125                       | D4D-2525N                        | D4N-2A25                       | D4D-2A25N                        | D4N-2B25                       |
| D4D-3125N                        | D4N-3125                       | D4D-3525N                        | D4N-3A25                       | D4D-3A25N                        | D4N-3B25                       |
| D4D-1131N                        | D4N-1131                       | D4D-1531N                        | D4N-1A31                       | D4D-1A31N                        | D4N-1B31                       |
| D4D-2131N                        | D4N-2131                       | D4D-2531N                        | D4N-2A31                       | D4D-2A31N                        | D4N-2B31                       |
| D4D-3131N                        | D4N-3131                       | D4D-3531N                        | D4N-3A31                       | D4D-3A31N                        | D4N-3B31                       |
| D4D-5131N                        | D4N-5131                       | D4D-5531N                        | D4N-5A31                       | D4D-5A31N                        | D4N-5B31                       |
| D4D-6131N                        | D4N-6131                       | D4D-6531N                        | D4N-6A31                       | D4D-6A31N                        | D4N-6B31                       |
| D4D-1132N                        | D4N-1132                       | D4D-1532N                        | D4N-1A32                       | D4D-1A32N                        | D4N-1B32                       |
| D4D-2132N                        | D4N-2132                       | D4D-2532N                        | D4N-2A32                       | D4D-2A32N                        | D4N-2B32                       |
| D4D-3132N                        | D4N-3132                       | D4D-3532N                        | D4N-3A32                       | D4D-3A32N                        | D4N-3B32                       |
| D4D-5132N                        | D4N-5132                       | D4D-5532N                        | D4N-5A32                       | D4D-5A32N                        | D4N-5B32                       |
| D4D-6132N                        | D4N-6132                       | D4D-6532N                        | D4N-6A32                       | D4D-6A32N                        | D4N-6B32                       |
| D4D-1162N                        | D4N-1162                       | D4D-1562N                        | D4N-1A62                       | D4D-1A62N                        | D4N-1B62                       |
| D4D-2162N                        | D4N-2162                       | D4D-2562N                        | D4N-2A62                       | D4D-2A62N                        | D4N-2B62                       |
| D4D-3162N                        | D4N-3162                       | D4D-3562N                        | D4N-3A62                       | D4D-3A62N                        | D4N-3B62                       |
| D4D-5162N                        | D4N-5162                       | D4D-5562N                        | D4N-5A62                       | D4D-5A62N                        | D4N-5B62                       |
| D4D-6162N                        | D4N-6162                       | D4D-6562N                        | D4N-6A62                       | D4D-6A62N                        | D4N-6B62                       |
| D4D-1172N                        | D4N-1172                       | D4D-1572N                        | D4N-1A72                       | D4D-1A72N                        | D4N-1B72                       |
| D4D-2172N                        | D4N-2172                       | D4D-2572N                        | D4N-2A72                       | D4D-2A72N                        | D4N-2B72                       |
| D4D-3172N                        | D4N-3172                       | D4D-3572N                        | D4N-3A72                       | D4D-3A72N                        | D4N-3B72                       |
| D4D-5172N                        | D4N-5172                       | D4D-5572N                        | D4N-5A72                       | D4D-5A72N                        | D4N-5B72                       |
| D4D-6172N                        | D4N-6172                       | D4D-6572N                        | D4N-6A72                       | D4D-6A72N                        | D4N-6B72                       |
| D4D-112HN                        | D4N-112H                       | D4D-152HN                        | D4N-1A2H                       | D4D-1A2HN                        | D4N-1B2H                       |
| D4D-212HN                        | D4N-212H                       | D4D-252HN                        | D4N-2A2H                       | D4D-2A2HN                        | D4N-2B2H                       |
| D4D-312HN                        | D4N-312H                       | D4D-352HN                        | D4N-3A2H                       | D4D-3A2HN                        | D4N-3B2H                       |



General-purpose Limit Switches

| D4D-N product to be discontinued | Recommended substitute product | D4D-N product to be discontinued | Recommended substitute product | D4D-N product to be discontinued | Recommended substitute product |
|----------------------------------|--------------------------------|----------------------------------|--------------------------------|----------------------------------|--------------------------------|
| D4D-1121N                        | D4N-112G                       | D4D-15REN                        | D4N-1ARE                       | D4D-1AREN                        | D4N-1BRE                       |
| D4D-2121N                        | D4N-212G                       | D4D-25REN                        | D4N-2ARE                       | D4D-2AREN                        | D4N-2BRE                       |
| D4D-3121N                        | D4N-312G                       | D4D-35REN                        | D4N-3ARE                       | D4D-3AREN                        | D4N-3BRE                       |
| D4D-5121N                        | D4N-512G                       | D4D-55REN                        | D4N-5ARE                       | D4D-5AREN                        | D4N-5BRE                       |
| D4D-6121N                        | D4N-612G                       | D4D-65REN                        | D4N-6ARE                       | D4D-6AREN                        | D4N-6BRE                       |
| D4D-1127N                        | D4N-112H                       | D4D-15LEN                        | D4N-1ALE                       | D4D-1ALEN                        | D4N-1BLE                       |
| D4D-2127N                        | D4N-212H                       | D4D-25LEN                        | D4N-2ALE                       | D4D-2ALEN                        | D4N-2BLE                       |
| D4D-3127N                        | D4N-312H                       | D4D-35LEN                        | D4N-3ALE                       | D4D-3ALEN                        | D4N-3BLE                       |
| D4D-5127N                        | D4N-512H                       | D4D-55LEN                        | D4N-5ALE                       | D4D-5ALEN                        | D4N-5BLE                       |
| D4D-6127N                        | D4N-612H                       | D4D-65LEN                        | D4N-6ALE                       | D4D-6ALEN                        | D4N-6BLE                       |
| D4D-1180N                        | D4N-4180                       | D4D-1521N                        | D4N-1A2G                       | D4D-1A21N                        | D4N-1B2G                       |
| D4D-2180N                        | D4N-2180                       | D4D-2521N                        | D4N-2A2G                       | D4D-2A21N                        | D4N-2B2G                       |
| D4D-3180N                        | D4N-3180                       | D4D-3521N                        | D4N-3A2G                       | D4D-3A21N                        | D4N-3B2G                       |
| D4D-5180N                        | D4N-8180                       | D4D-5521N                        | D4N-5A2G                       | D4D-5A21N                        | D4N-5B2G                       |
| D4D-6180N                        | D4N-6180                       | D4D-6521N                        | D4N-6A2G                       | D4D-6A21N                        | D4N-6B2G                       |
| D4D-1187N                        | D4N-4187                       | D4D-1527N                        | D4N-1A2H                       | D4D-1A27N                        | D4N-1B2H                       |
| D4D-2187N                        | D4N-2187                       | D4D-2527N                        | D4N-2A2H                       | D4D-2A27N                        | D4N-2B2H                       |
| D4D-3187N                        | D4N-3187                       | D4D-3527N                        | D4N-3A2H                       | D4D-3A27N                        | D4N-3B2H                       |
| D4D-5187N                        | D4N-8187                       | D4D-5527N                        | D4N-5A2H                       | D4D-5A27N                        | D4N-5B2H                       |
| D4D-6187N                        | D4N-6187                       | D4D-6527N                        | D4N-6A2H                       | D4D-6A27N                        | D4N-6B2H                       |
|                                  |                                |                                  |                                | D4D-1A80N                        | D4N-4B80                       |
|                                  |                                |                                  |                                | D4D-2A80N                        | D4N-2B80                       |
|                                  |                                |                                  |                                | D4D-3A80N                        | D4N-3B80                       |
|                                  |                                |                                  |                                | D4D-5A80N                        | D4N-8B80                       |
|                                  |                                |                                  |                                | D4D-6A80N                        | D4N-6B80                       |
|                                  |                                |                                  |                                | D4D-1A87N                        | D4N-4B87                       |
|                                  |                                |                                  |                                | D4D-2A87N                        | D4N-2B87                       |
|                                  |                                |                                  |                                | D4D-3A87N                        | D4N-3B87                       |
|                                  |                                |                                  |                                | D4D-5A87N                        | D4N-8B87                       |
|                                  |                                |                                  |                                | D4D-6A87N                        | D4N-6B87                       |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.  
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. C130-E1-02

In the interest of product improvement, specifications are subject to change without notice.

# Terms and Conditions of Sale

- Offer; Acceptance.** These terms and conditions (these "Terms") are deemed part of all quotes, agreements, purchase orders, acknowledgments, price lists, catalogs, manuals, brochures and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronics LLC and its subsidiary companies ("Omron"). Omron objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms.
- Prices; Payment Terms.** All prices stated are current, subject to change without notice by Omron. Omron reserves the right to increase or decrease prices on any unshipped portions of outstanding orders. Payments for Products are due net 30 days unless otherwise stated in the invoice.
- Discounts.** Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Omron's payment terms and (ii) Buyer has no past due amounts.
- Interest.** Omron, at its option, may charge Buyer 1-1/2% interest per month or the maximum legal rate, whichever is less, on any balance not paid within the stated terms.
- Orders.** Omron will accept no order less than \$200 net billing.
- Governmental Approvals.** Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Products.
- Taxes.** All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Omron or required to be collected directly or indirectly by Omron for the manufacture, production, sale, delivery, importation, consumption or use of the Products sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Omron.
- Financial.** If the financial position of Buyer at any time becomes unsatisfactory to Omron, Omron reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Omron may (without liability and in addition to other remedies) cancel any unshipped portion of Products sold hereunder and stop any Products in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts.
- Cancellation; Etc.** Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Omron against all related costs or expenses.
- Force Majeure.** Omron shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.
- Shipping; Delivery.** Unless otherwise expressly agreed in writing by Omron:
  - Shipments shall be by a carrier selected by Omron; Omron will not drop ship except in "break down" situations.
  - Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
  - All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Omron), at which point title and risk of loss shall pass from Omron to Buyer; provided that Omron shall retain a security interest in the Products until the full purchase price is paid;
  - Delivery and shipping dates are estimates only; and
  - Omron will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
- Claims.** Any claim by Buyer against Omron for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Omron within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products from Omron in the condition claimed.
- Warranties.** (a) **Exclusive Warranty.** Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied. (b) **Limitations.** OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) **Buyer Remedy.** Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty. See <http://oeweb.omron.com> or contact your Omron representative for published information.
- Limitation on Liability; Etc.** OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY. Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.
- Indemnities.** Buyer shall indemnify and hold harmless Omron Companies and their employees from and against all liabilities, losses, claims, costs and expenses (including attorney's fees and expenses) related to any claim, investigation, litigation or proceeding (whether or not Omron is a party) which arises or is alleged to arise from Buyer's acts or omissions under these Terms or in any way with respect to the Products. Without limiting the foregoing, Buyer (at its own expense) shall indemnify and hold harmless Omron and defend or settle any action brought against such Companies to the extent based on a claim that any Product made to Buyer specifications infringed intellectual property rights of another party.
- Property; Confidentiality.** Any intellectual property in the Products is the exclusive property of Omron Companies and Buyer shall not attempt to duplicate it in any way without the written permission of Omron. Notwithstanding any charges to Buyer for engineering or tooling, all engineering and tooling shall remain the exclusive property of Omron. All information and materials supplied by Omron to Buyer relating to the Products are confidential and proprietary, and Buyer shall limit distribution thereof to its trusted employees and strictly prevent disclosure to any third party.
- Export Controls.** Buyer shall comply with all applicable laws, regulations and licenses regarding (i) export of products or information; (ii) sale of products to "forbidden" or other proscribed persons; and (iii) disclosure to non-citizens of regulated technology or information.
- Miscellaneous.** (a) **Waiver.** No failure or delay by Omron in exercising any right and no course of dealing between Buyer and Omron shall operate as a waiver of rights by Omron. (b) **Assignment.** Buyer may not assign its rights hereunder without Omron's written consent. (c) **Law.** These Terms are governed by the law of the jurisdiction of the home office of the Omron company from which Buyer is purchasing the Products (without regard to conflict of law principles). (d) **Amendment.** These Terms constitute the entire agreement between Buyer and Omron relating to the Products, and no provision may be changed or waived unless in writing signed by the parties. (e) **Severability.** If any provision hereof is rendered ineffective or invalid, such provision shall not invalidate any other provision. (f) **Setoff.** Buyer shall have no right to set off any amounts against the amount owing in respect of this invoice. (g) **Definitions.** As used herein, "including" means "including without limitation"; and "Omron Companies" (or similar words) mean Omron Corporation and any direct or indirect subsidiary or affiliate thereof.

## Certain Precautions on Specifications and Use

- Suitability of Use.** Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases but the following is a non-exhaustive list of applications for which particular attention must be given:
  - Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.
  - Use in consumer products or any use in significant quantities.
  - Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
  - Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this Product.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON'S PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
- Programmable Products.** Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.
- Performance Data.** Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.
- Change in Specifications.** Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.
- Errors and Omissions.** Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

Complete "Terms and Conditions of Sale" for product purchase and use are on Omron's website at [www.omron.com/oei](http://www.omron.com/oei) – under the "About Us" tab, in the Legal Matters section.

**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.



**OMRON ELECTRONICS LLC**

One Commerce Drive  
Schaumburg, IL 60173

**847-843-7900**

For US technical support or other inquiries:

**800-556-6766**

**OMRON CANADA, INC.**

885 Milner Avenue  
Toronto, Ontario M1B 5V8

**416-286-6465**

**OMRON ON-LINE**

Global - <http://www.omron.com>  
USA - <http://www.omron.com/oei>  
Canada - <http://www.omron.ca>