

Electronic Components

Master Selection Guide

Relays
Electromechanical

Relays
Microelectronic

Switches

Connectors

Sensors

Fiber Optic

OMRON
ELECTRONIC COMPONENTS

Omron Electronic Components LLC

Stability and Experience

With over 70 years experience, Omron continues to apply the latest technologies providing you with innovative efficient control component solutions. Our wide range of relays, switches, sensors, and connectors allows our customers to streamline vendor lists and reduce the cost of procurement.

Quality First

Our commitment, your benefit

Omron makes a conscious choice to relentlessly pursue quality. Our quality engineers are part of the design and manufacturing process from the start. We design and evaluate at the component level, test and adjust during manufacturing, and examine every physical, mechanical, and electrical aspect of each final product before it leaves the factory.

Customer Support

Omron's sales engineers, inside sales representatives, and customer service staff have experience with all types of electronic applications. No matter what the application or volume, we will find just the right component for your project.

Broad Product Offering

Relays: The #1 Supplier In The World:

- MOS FET
- Low Signal
- RF/HF
- RF MEMS
- Power PCB
- Automotive
- General-Purpose
- Solid State

Switches:

- Snap Action
- Tactile
- DIP
- Dome Array
- Thumbwheel
- Rocker

Sensors:

- Flow
- Pressure
- Tilt
- Vibration

Connectors:

- FPC
- Industrial
- PCB

Fiber Optic:

- Tosa/Rosa
- Tx/Rx Module
- Splitters
- MLA

Additional information can be found at www.components.omron.com, or by calling us at: 847.882.2288 Monday through Friday 7:30 AM until 6:00 PM CST. Our inside sales staff will be ready to provide you with detailed product information, technical design support, or the location of your local Omron sales office or authorized distributor.



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OMRON History & Profile

History:

Omron was founded May 10, 1933 in Kyoto, Japan, by founder Kazuma Tateisi. The first product developed and released by Omron was a timer for X-ray equipment. Since then, Omron has expanded globally and produced a steady stream of breakthroughs in electronic components that have contributed to the improvement of productivity in many different industries. Omron's consistent striving to accurately anticipate the potential needs of society and develop businesses to satisfy those needs has made the Omron Group what it is today. Dr. Tateisi's passion and progressive attitude are instilled to this day in all Omron employees, and the challenge-oriented spirit remains the main source of Omron's identity. By consistently preserving the spirit and philosophy of Omron's founder, we are determined to continue meeting the challenges of creating a better tomorrow.

Achievements:

- **December 1943** – Development of Japan's first precision switch; established Omron (then Tateisi Electric) as a 'technological pioneer' in Japan.
- **1948** – Establishment of Omron Tateisi Electronics Co. coincided with the successful development and production of a new current limiter integrating Omron's precision switch and protective relay technologies.
- **1955-1965** – Launched the full-scale production of control components and the introduction of a steady stream of new products including advanced precision switches & compact protective relays.
- **1960** – Development of the innovative solid-state proximity switch and solid-state relay.
- **1963** – Introduction of the world's first automatic meal-ticket vending machine.
- **1969 and 1971** – Development of the first off-line and on-line automatic cash dispensers which established Omron as one of the pioneers of the banking revolution in Japan.
- **1967** – Completion of the world's first automated train station system achieved by drawing on the company's advanced card system technology.
- **January 1990** – the company was renamed to Omron Corporation and marked a commitment to continue expansion of business lines and global-scale production.
- **April 1999** – Omron establishes a strategic system of five specialized, independent business units.
- **2002** – Establishment of Omron China to accelerate market expansion in to China and Asia-Pacific.
- **2008** – Omron celebrates 75 years of business with a commitment to "Building on tradition, focused on the future."

Profile:

Omron Corporation is a \$7.5 billion leading global supplier of electronics and control system components and services.

OMRON's Core

Competencies:

Materials
Precision Assembly
Stamping
Molding
Welding
Integration of Active Elements

Technologies:

Advanced Devices

Micromachining
 MEMS, Lens and Mirror

Sensing

Flow, Pressure, Vibration, Tilt

Control

Switching, Magnetic Actuators

Electronic Components Business

Markets Served:

Communications • Transportation
Consumer Electronics • Industrial • HVAC
Appliances • Medical • Test & Measurement

Other Omron Businesses

**Automotive
 Electronics
 Business**



**Social
 System
 Business**



**Industrial
 Automation
 Business**



**Healthcare
 Business**

Design Synthesis: Our product designs are based on a combination of our core competencies and core technologies to effectively meet customer and market needs. By efficiently and creatively manipulating these competencies, we are able to develop and manufacture a broad offering of cost effective, high quality, and environmentally friendly products. As the global market's demand for new and innovative products continues to grow, Omron pledges to expand its research and development of new core technologies.

Commitment to the Environment: Omron is committed to creating products that are designed with consideration for the environment throughout their entire lifespan (what we call "Eco-Products"). These considerations address energy and resource conservation, extended product life, reuse and recycling, as well as avoidance of hazardous chemical substances. Our goal is to make a proactive contribution to reducing the harm caused by our societal system to the environment through the development of more environmentally sound products.

**Relays
 Electromechanical**

**Relays
 Microelectronic**

Switches

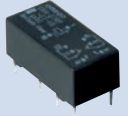
Connectors

Sensors

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OMRON
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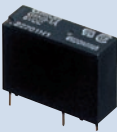
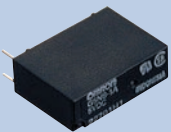
Relays - Low Signal

					
General Attributes	G6J-Y	G6K	G6H	G6S	G6A
Dimensions mm (in)	10.0 H x 10.6 L x 5.7 W (0.39 x 0.42 x 0.22)	5.30 H x 10.20 L x 6.70 W (0.21 x 0.40 x 0.26)	5.08 H x 13.97 L x 8.89 W (0.20 x 0.55 x 0.35)	9.40 H x 15 L x 7.50 W (0.37 x 0.59 x 0.30)	8.40 H x 20.20 L x 10.10 W (0.33 x 0.80 x 0.40)
Switching	1A max.	1A max.	1A max.	2A max.	2A max.
Features	- Slimline, 2 Form C, 1 Amp relay - SMT & PCB versions 2.5kV surge withstand - Available in SMT & PCB - Latching & non-latching versions - Ideal for Telecom, Test & Measurement, Medical, Security, Computer Peripheral, Office Automation	- Small real estate, 2 Form C, 1 Amp relay 100mW power consumption 2.5kV surge withstand - SMT & PCB versions - Latching & non-latching models - Ideal for Telecom, Test & Measurement, Medical, Security, Office Automation, Computer Peripheral	- Low profile (5mm), 2 Form C, 1 Amp relay - Available in SMT & PCB 1.5kV surge withstand 140mW power consumption - Ideal for Telecom, Test & Measurement, Medical, Security, Office Automation, Computer Peripheral	- Industry standard, 2 Form C, 2 Amp relay 2.5 kV surge withstand - SMT gullwing, SMT inside-L, PCB models - Latching & non-latching versions - European version available (supplementary insulation at 250V at pollution degree 2 per EN60950/EN41003) - Ideal for Telecom, Thermostats, Medical, Test & Measurement, Security	- Industry standard, 2 Form C, 2 Amp relay 200mW, 400mW versions 2 Pole & 4 Pole models - Latching & non-latching versions 1.5kV surge withstand - Ideal for Telecom, Test & Measurement, Security
Contact Information					
Contact form	2 Form C	2 Form C	2 Form C	2 Form C	2 Form C, 4 Form C
Contact type(s)	Bifurcated crossbar	Bifurcated crossbar	Bifurcated crossbar	Bifurcated crossbar	Bifurcated crossbar
Contact material	Ag with Au alloy clad	Ag with Au clad	Ag with Au clad	Ag with Au clad; AgPd with Au clad	Ag with Au clad; AgPd with Au clad
Rated load (under resistive load)	0.3A @ 125VAC, 1A @ 30VDC	0.3A @ 125VAC, 1A @ 30VDC	0.5A @ 125VAC, 1A @ 30VDC	0.5 @ 125VAC, 2A @ 30VDC	0.3A to 0.5A @ 125VAC, 1A to 2A @ 30VDC
Max. operating voltage	125VAC, 110VDC	125VAC, 60VDC	125VAC, 110VDC	250VAC, 220VDC	250VAC, 220VDC
Max. switching capacity under resistive load	37.5VA, 30W (NO)	37.5VA, 30W	62.5VA, 33W	62.5VA, 60W	125VA, 60W
Min. electrical service life (operations at rated load)	100,000	100,000	100,000	100,000	500,000
Min. permissible load (for reference only)	10µA @ 10mVDC	10µA @ 10mVDC	10µA @ 10mVDC	10µA @ 10mVDC	10µA @ 10mVDC
Coil Information					
Coil voltage	3, 4.5, 5, 12, 24VDC	3, 4.5, 5, 6, 9, 12, 24VDC	3, 5, 6, 9, 12, 24, 48VDC	3, 4.5, 5, 6, 9, 12, 24VDC	3, 5, 6, 9, 12, 24, 48VDC
Power consumption	140mW (230mW for DC24)	100mW (standard and latching)	140mW (standard)	140mW (standard) 140mW, 200mW (latching)	200mW (DPDT standard) 180mW (DPDT latching) 360mW (4PDT standard)
Characteristics					
Dielectric strength between coil & contacts (50/60 Hz for 1 minute)	1,500VAC	1,500VAC	1,000VAC	2,000VAC	1,000VAC
Surge withstand	2.5kV (2 x 10µs)	2.5kV (2 x 10µs)	1.5kV (10 x 160µs)	2.5kV (2 x 10µs)	1.5kV (10 x 160µs)
Terminal choices	SMT Gullwing, PCB	SMT Gullwing, SMT Inside-L, PCB	PCB (G6H), SMT Gullwing (G6H-2F)	SMT Gullwing, SMT Inside-L, PCB	PCB
Packaging	Tape & reel available	Tape & reel available	Tape & reel available	Tape & reel available	—
Approved standards	Bellcore 2.5kV / Telcordia GR-1089-CORE 2.5kV between coil and contacts	Bellcore 2.5kV / Telcordia GR-1089-CORE 2.5kV between coil and contacts	UL, CSA, (FCC Part 68)	Bellcore 2.5 kV / Telcordia GR-1089-CORE 2.5 kV (between coil and contacts)	UL, CSA, (FCC Part 68)

Relays - Low Signal

					
General Attributes	G5A	G5V-1	G6L	G5V-2	G6E
Dimensions mm (in)	8.38 H x 16 L x 9.9 W (0.33 x 0.63 x 0.39)	10.0 H x 12.50 L x 7.50 W (0.39 x 0.49 x 0.30)	4.5 H x 10.6 L x 7.0 W (0.18 x 0.42 x 0.28)	11.43 H x 20.32 L x 9.91 W (0.45 x 0.80 x 0.39)	8.38 H x 16 L x 9.9 W (0.33 x 0.63 x 0.39)
Switching	1A max.	1A max.	1A max.	2A max.	3A max.
Features	- General use, 2 Form C, 1 Amp relay - Semi-sealed or fully-sealed construction - Ideal for Telecom, Security, Computer Peripheral, Office Automation	- General use, 1 Form C, 1 Amp relay 150mW power consumption 1.5kV surge withstand - Ideal for Telecom, Security, Computer Peripheral	- Very low profile, 1 Form A, 1 Amp relay 1.5kV surge withstand - SMT & PCB versions - Ideal for Security & General Use	2 Form C, 1-2 Amp relay - Ideal for general use - Industry standard footprint 150mW, 360mW & 500mW coil power versions 1.5 kV surge withstand	- General use, 1 Form C, 3 Amp relay 2.5 kV surge withstand 200mW, 400mW models - Latching and non-latching versions
Contact Information					
Contact form	2 Form C	1 Form C	1 Form A	2 Form C	1 Form C
Contact type(s)	Bifurcated crossbar	Single crossbar	Single crossbar	Bifurcated crossbar	Bifurcated crossbar
Contact material	Ag with Au clad	Ag with Au clad	Ag with Au clad	Ag with Au clad	Ag with Au clad
Rated load (under resistive load)	0.5A @ 24VAC, 1A @ 24VDC	0.5A @ 125VAC, 1A @ 24VDC	0.3A @ 125VAC, 1A @ 24VDC	0.5A @ 125VAC, 2A @ 30VDC	0.4A @ 125VAC, 2A @ 30VDC
Max. operating voltage	125VAC, 125VDC	125VAC, 60VDC	125VAC, 60VDC	125VAC, 125VDC	250VAC, 220VDC
Max. switching capacity under resistive load	37.5VA, 33W	62.5VA, 30W	37.5VA, 24W	62.5VA, 60W	50VA, 60W
Min. electrical service life (operations at rated load)	100,000	100,000	100,000	300,000	100,000
Min. permissible load (for reference only)	1mA @ 5VDC	1mA @ 5VDC	1mA @ 5VDC	10µA @ 10mVDC	10µA @ 10mVDC
Coil Information					
Coil voltage	5, 6, 9, 12, 24, 48VDC	5, 6, 9, 12, 24VDC	3, 4.5, 5, 12, 24VDC	3, 5, 6, 9, 12, 24, 48VDC	3, 5, 6, 9, 12, 24, 48VDC
Power consumption	200mW (standard & latching)	150mW	180mW (standard)	500mW (standard) 360mW (high-sensitivity) 150mW (ultra-sensitive)	200mW (standard) 400mW (standard)
Characteristics					
Dielectric strength between coil & contacts (50/60 Hz for 1 minute)	1,000VAC	1,000VAC	1,000VAC	1,000VAC	1,500VAC
Surge withstand	—	1.5kV (10 x 160µs)	—	1.5kV (10 x 160µs)	2.5kV (2 x 10µs)
Terminal choices	PCB	PCB	PCB, SMT Gullwing	PCB	PCB
Packaging	—	—	Tape & reel available	—	—
Approved standards	UL, CSA	UL, CSA	UL/CSA (FCC Part 68)	UL, CSA	UL/CSA (FCC Part 68) Bellcore 2.5kV / Telcordia GR-1089-CORE 2.5kV between coil and contacts

Relays - Power PCB

	NEW! 	NEW! 		
General Attributes	G5NB	G5NB-E	G5SB	G6D-ASI
Dimensions mm (in)	15.3 H x 20.5 L x 7.2 W (0.60 x 0.81 x 0.28) max.	15.3 H x 20.5 L x 7.2 W (0.60 x 0.81 x 0.28) max.	15.8 H x 20.3 L x 10.3 W (0.62 x 0.80 x 0.41) max.	12.5 H x 17.5 L x 6.5 W (0.49 x 0.69 x 0.26)
Switching	3A	5A (AC Loads) 3A (DC Loads)	5A(NO)/3A(NC)	5A
Features	- Compact 3A relay with PCB area of 148mm² - Meets EN tracking resistance CTI>250 - Sealed models available	5A switching capability AC loads) - Meets EN tracking resistance CTI>250 - Sealed models available	- High insulation between coil & contact - Impulse withstand of 8kV - Fully Sealed - Incorporates 5A NO contact	- Subminiature, slim lightweight design - Low power consumption - Fully Sealed
Contact Information				
Contact form	1 Form A	1 Form A	1 Form C	1 Form A
Contact type(s)	Single button	Single button	Single button	Single button
Contact material	Ag-Alloy	Ag-Alloy	Ag-Alloy	Ag-Alloy
Electrical service life (@ 1800 ops./hr.) (resistive load)	200,000: 3A @ 125VAC/30VDC	200,000: 3A @ 30VDC 100,000: 5A @ 250VAC	200,000 3A (NO)/3A (NC) at 125VAC 50,000 5A (NO) at 250VAC 10,000 5A (NO)/3A (NC) at 30VDC	300,000: 2A @ 30VDC/250VAC 70,000: 5A @ 30VDC/250VAC
Max. switching capacity under resistive load	375VA, 90W	1,250VA, 90W	1,250VA, 150W(NO) 750 VA, 90 W (NC)	1,250VA, 150W
Min. permissible load (for reference only)	10mA @ 5VDC	10mA @ 5VDC	10mA @ 5VDC	10mA @ 5VDC
Coil Information				
Coil voltage	5, 12, 18, 24VDC	5, 12, 18, 24VDC	5, 9, 12, 24VDC	5, 12, 24, 48VDC
Power consumption	200mW	200mW	400mW	200mW
Insulation class	—	—	—	—
Characteristics				
Operating temperature	-40 to +70°C	-40 to +70°C	-40 to +70°C	-25 to +70°C
Impulse withstand voltage (1.2 x 50μ sec. unless noted)	10kV	10kV	8kV	6kV
Dielectric strength	4,000VAC (coil-contact) 750VAC (open contacts)	4,000VAC (coil-contact) 750VAC (open contacts)	4,000VAC (coil-contact) 1,000VAC (open contacts)	3,000VAC (coil-contact) 750VAC (open contacts)
Terminal choices	PCB	PCB	PCB	PCB
Protection level	Sealed, semi-sealed	Sealed, semi-sealed	Sealed	Sealed
Accessories	N/A	N/A	N/A	Back connecting socket
Approved standards	UL, CSA, VDE	UL, CSA, VDE	UL, CSA, VDE	UL, CSA, TUV

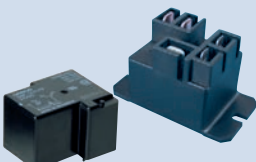
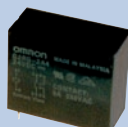
Relays - Power PCB

	NEW!		NEW!	
				
General Attributes	G6DS	G6M	G6RL	G6RN
Dimensions mm (in)	12.4 H x 20 L x 5.0 W (0.60 x 0.81 x 0.28)	17.7 H x 20.3 L x 5.08 W (0.70 x 0.80 x 0.20) max.	12.3 (H) x 28.5 (L) x 10.0 (W) (0.48 x 1.12 x 0.39) max.	15 H x 28.5 L x 10 W (0.59 x 1.12 x 0.39)
Switching	5A	5A	10 A (NO)/ 8 A (NC) AC loads 5 A DC loads	8A AC loads 5A DC loads
Features	- Slim 5mm for max. density mounting - High sensitive coil option reduces power consumption - Operating temperature -40C to + 85C - Fully sealed - Low profile of 12.5mm max	- Very small PCB area of 104mm² ideal for high-density mounting - Very low 120mW nominal power - Satisfies IEC 61131-2 and 61010	10mm creepage/clearance distance - Low profile: 12.3mm in height 5 kV Dielectric Strength - Sealed and flux tight models - Maximum voltage of 400VAC or 300VDC	8 mm coil/contact creepage - Low profile - Sealed construction standard - Ideal for switching contactors, solenoids & motors
Contact Information				
Contact form	1 Form A	1 Form A	1 Form A, 1 Form C	1 Form A, 1 Form C
Contact type(s)	Single button	Single button	Single Button	Single button
Contact material	AgNi	Ag-Alloy	Ag-Alloy	Ag-Alloy
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: 5A @ 30VDC/250VAC 80,000 (high sensitivity): 5A @ 30VDC/250VAC	100,000 minimum 3 A at 250 VAC/ 30 VDC	See datasheet for details	100,000: 8A @ 250VAC 5A @ 30VDC
Max. switching capacity under resistive load	1,250VA, 150W	750VA, 90W	2,500 VA (NO) 2,000 VA (NC) 150 W	2,000VA, 150W
Min. permissible load (for reference only)	5mA @ 24VDC	10mA @ 5VDC	10 mA, 5 VDC	10mA @ 5 VDC
Coil Information				
Coil voltage	5, 12, 24VDC	5, 12, 24VDC	3, 5, 6, 12, 24, 48 VDC	5, 6, 12, 24, 48VDC
Power consumptio	180mW 120mW (high-sensitivity)	120mW	Standard, ASI, PL Models: Approx. 220 mW Shock Resistant Models "SR": Approx. 300mW	220 mW, 250 mW (48 VDC)
Insulation class	—	—	Class B	—
Characteristics				
Operating temperature	-40 to +85°C	-40 to +85°C	-40C to +85C	-40 to +85°C
Impulse withstand voltage (1.2 x 50µ sec. unless noted)	6kV	5.08kV	10kV	4.5kV
Dielectric strength (50/60 Hz for 1 minute)	3,000VAC (coil-contacts) 750VAC (open contacts)	3,000VAC, (coil-contact) 750VAC, (open contacts)	5,000 VAC (coil and contacts) 1,000 VAC (contacts of same polarity)	4,000VAC (coil-contact) 1,000 (open contacts)
Terminal choices	PCB	PCB	PCB	PCB
Protection level	Fully Sealed	Fully Sealed	Sealed, semi-sealed	Sealed
Accessories	Socket for back connecting, sockets with PCB terminals	N/A	N/A	N/A
Approved standards	UL, CSA, VDE	UL, CSA, VDE	UL, CSA, VDE	UL, CSA, VDE

Relays - Power PCB

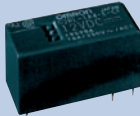
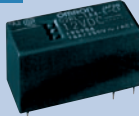
	NEW! 	NEW! 		
General Attributes	G5LA	G5LE/-E	G5Q	G6B
Dimensions mm (in)	15.6 (H) x 19.6 (L) x 15.6 (W) (0.61 x 0.77 x 0.61)	19 H x 22.5 L x 16.5 W (0.75 x 0.89 x 0.65)	15.8 H x 20.3 L x 10.3 W (0.62 x 0.80 x 0.41) max.	9.91 H x 20.07 L x 9.91 W (0.39 x 0.79 x 0.39)
Switching	10 A (SPST-NO)	10A (16A for Semi-sealed "E" type)	10A (NO contacts)	8A/5A
Features	- Economical Sugar Cube Relay - Ideal applications: Appliance, HVAC - UL Rating 15 A @ 125 VAC, general use, 50,000 cycles - UL Rating of 10 A @ 277 VAC, general use, 100,000 cycles (NC) high capacity "E" type. - Class F models available	- Sugar Cube Relay - High capacity "-E" handles resistive loads up to 16A (NO) and 12A (NC) - Large contact gap "-G" available - Standard models: Class B coil insulation. Class F models available	- Compact relay with Class F coil insulation 8kV Surge Withstand Voltage - UL 1/4HP Rating @ 250VAC (NO), 30,000 cycles - Low nominal power - CTI > 250 models available	- Low profile 12.5mm or less - Small PCB area of 200mm² - LED + Diode suppression models available - Single and dual coil latching types available
Contact Information				
Contact form	1 Form A, 1 Form C	1 Form A, 1 Form C	1 Form A, 1 Form C	1 Form A, 2 Form A, 2 Form B 1 Form A + 1 Form B
Contact type(s)	Single Button	Single button	Single button	Single button
Contact material	Ag-Alloy	Ag-Alloy	Ag-Alloy	Ag-Alloy
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: 10A @ 250VAC/24VDC (NO) 5A @ 125VAC/24VDC (NC) 5A @ 250VAC/24VDC "E" (NC)	G5LE: 100,000 at rated load UL Rating 13A, 120VAC, resistive, 100,000 cycles, @ 85C G5LE-E: 50,000 (NO) at rated load 30,000 (NC) at rated load (600 operations/hour) UL Rating 12A @ 250VAC (NO), general use, 100,000 cycles, @105C	200,000: 3A (NO)/3 A (NC) @ 125VAC 100,000: 3A (NO)/3 A (NC) @ 250VAC 5A (NO)/3 A (NC) @ 30VDC 50,000: 10A (NO) @125VAC (900 ops. per hour)	100,000: 5A @ 30 VDC/250VAC 8A @ 30 VDC/250VAC (high-capacity)
Max. switching capacity under resistive load	2,500 VA, 240 W (NO) 625 VA, 120 W (NC) standard 1,250 VA, 120 W (NC) high capacity	1,200VA, 240W	1,250VA, 150W (NO) 375 VA, 90W (NC)	1,250VA, 150W 2,000VA, 240W (high-capacity type)
Min. permissible load (for reference only)	100 mA, 5 VDC	G5LE: 1200VA, 240W G5LE-E: 4000VA (NO) G5LE-G: 350W	10mA @ 5VDC	10mA @ 5VDC
Coil Information				
Coil voltage	5, 9, 12, 24, 48 VDC	5, 6, 9, 12, 24, 48VDC	5, 12, 24VDC	5, 6, 12, 24VDC
Power consumption	Approx. 360 mW (480 mW 48 VDC)	G5LE/G5LE-E: 400mW (360mW models available) G5LE-G: 700mW	400mW Form C 200mW Form A	Standard non latching types 200mW (1 pole) 300mW (2 pole)
Insulation class	Class F models available	G5LE: Class B, G5LE-E/G: Class F	Class F	—
Characteristics				
Operating temperature	-40 to +85°C	-40 to +85°C	-40 to +105°C	-25 to +70°C
Impulse withstand voltage (1..2 x 50μ sec. unless noted)	4.5kV	4.5kV	8kV	—
Dielectric strength (50/60 Hz for 1 minute)	2,000 VAC (coil and contacts) 750 VAC (contacts of same polarity)	2,000VAC (coil-contact) 750VAC (open contacts)	4,000VAC (coil-contact) 1,000VAC (open contacts)	see data sheet for full details
Terminal choices	PCB	PCB	PCB	PCB
Protection level	Sealed, semi-sealed	G5LE: sealed, flux tight G5LE-E/G: flux tight	Standard: Semi-sealed/vented, Option: sealed	Sealed (LED + Diode type flux tight)
Accessories	—	N/A	N/A	Back connecting PCB Sockets
Approved standards	UL, CSA, VDE, CQC	UL, CSA, VDE	UL, CSA, VDE	UL, CSA

Relays - Power PCB

				
General Attributes	G6C	G5CA	G8PT	G2RG
Dimensions mm (in)	9.91 H x 20.07 L x 14.99 W (0.39 x 0.79 x 0.59)	11 H x 16 L x 22 W (10A) (0.43 x 0.63 x 0.87) 11 H x 22 L x 25 W (15A)	Multiple, refer to catalog. Basic: 20.1(H)x 32.1(L) x 27.7(W)	25.5 H x 29 L x 13 W (1.00 x 1.14 x 0.51)
Switching	1 Form A: 10A 1 Form A + 1 Form B: 8A	10A (15A high capacity)	1 Form A: 30A 1 Form C: 20A (NO)/10A (NC)	8A
Features	- Low power consumption for high power switching - Low profile 10A power relay - Single & dual coil latching types available - Sealed construction available - Back connecting sockets available	- Low profile of 11mm - High capacity "-E" models have 15A resistive load rating - High sensitivity "-H" models have 150mW Nominal Power - PCB or PCB + Q.C. terminal options - Sealed models available for PCB only (excluding high capacity)	30A switching capacity for 1 Form A models (AC loads) - Class F coil insulation - Operating temperature: -55C to 105C - UL Rating 1 Form A models 15FLA/75LRA, 120VAC, 85C, 130,000 cycles - PCB, PCB + Q.C., and Q.C. terminal options	1.5mm contact gap between terminals of same polarity - Dimensions & mounting holes are same as G2R relay series - Sealed construction, standard - Meets EN tracking resistance CTI > 250
Contact Information				
Contact form	1 Form A + 1 Form B, 1 Form A	1 Form A	1 Form A, 1 Form C	2 Form A
Contact type(s)	Single button	Single button	Single button	Single button
Contact material	Ag-Alloy	Ag-Alloy	Ag-Alloy	Ag-Alloy
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: 10A @ 30VDC/250VAC (1 Form A models) For 1 Form A + 1 Form B models see datasheet	100,000 (1,200 ops/hour): 10A @ 30VDC 15A @ 110VAC (high capacity) 10A @ 250VAC (fully sealed, std) 300,000: 10A @ 250VAC (semi-sealed)	100,000 (1 Form A): 30A @ 250VAC, 20A @ 28VDC 100,000 (1 Form C): 20A @ 250VAC, 20A @ 28VDC NO 10A @ 250VAC, 10A @ 28VDC (NC) (360 ops/hour apply to all ratings)	10,000: 8A @ 250VAC
Max. switching capacity under resistive load	2,500VA, 300W 2,000VA, 240W (latching)	2,500VA, 300W	1 Form A: 7,500VA, 560W 1 Form C: 5000/2500VA, 560W/280W*	2,000 VA
Min. permissible load (for reference only)	10mA @ 5VDC	100mA @ 5VDC	500mA @ 5VDC	10mA @ 5VDC
Coil Information				
Coil voltage	3, 5, 6, 12, 24VDC	5, 12, 24VDC	5, 9, 12, 24, 48, 110VDC Other coil voltages available	12, 24VDC
Power consumption	200mW (monostable & single coil latching) 280mW (dual coil latching)	200mW (standard & high capacity) 150mW (high sensitivity)	900mW	800mW
Insulation class	—	—	Class F	—
Characteristics				
Operating temperature	-25°C to +70°C	-25 to +70°C	-55°C to +105°C	-40 to +70°C
Impulse withstand voltage (1..2 x 50μ sec. unless noted)	4.5kV	4.5kV	6kV	10kV
Dielectric strength (50/60 Hz for 1 minute)	Non latching types: 2,000VAC (coil-contact) 1,000VAC (contacts same polarity)	2,500VAC (coil-contact) 1,000VAC (open contacts)	2,500VAC, (coil-contact) 1,500VAC, (open contacts)	5,000VAC, (coil-contact) 3,000VAC, (contacts pole-pole) 1,000VAC (open contacts)
Terminal choices	PCB, self clinching	PCB, Optional: PCB+quick-connect contact terminals	PCB, PCB+quick-connect contact terminals Flange mount all quick connect	PCB
Protection level	Semi-sealed Fully sealed option	Semi-sealed Fully sealed option	Open frame, Vented/semi-sealed, Fully sealed	Fully Sealed
Accessories	Back connecting PCB sockets, socket clips	N/A	N/A	N/A
Approved standards	UL, CSA, VDE	UL, CSA, TUV	UL, CSA	UL, CSA, VDE (0700/0110)

* N.O. Contact / N.C. Contact

Relays - Power PCB

				
General Attributes	G2R	G2RL	G2RL-TP	G5RL
Dimensions mm (in)	25.5 H x 29 L x 13 W (1 x 1.14 x 0.51) max.	15.5 H x 28.8 L x 12.5 W (0.61 x 1.13 x 0.49)	15.9 H x 40.4 L x 12.6 W (0.63 x 1.59 x 0.50)	15.5 H x 28.8 L x 12.5 W (0.61 x 1.13 x 0.49)
Switching	3A/5A/10A/16A options	8A/10A/12A/16A options	16A max.	see datasheet
Features	8mm creepage/clearance - Latching models available 10kV Surge Withstand "H" 360mW models 1 or 2 pole plus flux tight or sealed "T" quick connect models ideal for thin space panel mounting - Class B models available	- Low profile 15.7mm - Class F coil insulation 10kV Surge Withstand - SPDT "H" 250mW models available - CTI > 250	- Electrical life of 50,000 operations at 16A 250VAC @ 105C - Simplifies PCB design by allowing removal of high power PCB tracings. - Maximum load voltage 440VAC - Operating Temperature -40C to 105C	- Low profile of 15.7mm - AC coil models "-E" - High inrush models "-HR" handling up to 100A peak inrush current - Low noise models "-LN" for sound sensitive environments
Contact Information				
Contact form	1 Form A, 1 Form C, 2 Form A, 2 Form C	1 Form A, 1 Form C, 2 Form A, 2 Form C	1 Form A	1 Form C ("HR" and AC coil type) 1 Form A ("HR" and "LN" type)
Contact type(s)	Single button, bifurcated button	Single button	Single button	Single button
Contact material	Ag alloy	Ag alloy	Ag alloy	Ag alloy
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: (high-capacity type) 16A @ 30VDC/250VAC Consult catalog for other ratings	100,000 (360 ops/hour): High capacity 16A 250VAC 1 Pole: 12A 250VAC 2 Pole: 8A 250VAC	50,000 16A @ 250VAC (900 ops/hour)	AC coil and "HR" models: 50,000 at 16A 250VAC/24VDC (NO) 50,000 at 5A 250VAC/24VDC (NC) "LN" models: standard/high capacity 100,000 12A 250VAC (standard) 50,000 16A 250VAC (high capacity)
Max. switching capacity under resistive load	4,000VA, 480W (high-capacity 1 pole) Consult catalog for other ratings	4,000VA, 384W (high-capacity 1 pole) Consult catalog for other ratings	4,000VA,	4,000VA, 384W (NO) 1,250VA, 120W (NC)
Min. permissible load (for reference only)	1 pole: 100mA @ 5VDC; 2 pole: 10mA @ 5VDC	40mA, 24VDC	—	AC coil: 40mA @ 24VDC "HR" and "LN": 100mA @ 5VDC
Coil Information				
Coil voltage	AC coil: 6, 12, 24, 120, 240 VAC DC coil: 3, 5, 6, 12, 24, 48 VDC See datasheet for more details	5, 12, 24, 48VDC "H" Type: 5, 9, 12, 24 VDC	12, 24VDC Consult Omron for additional coil voltages	AC coil: 24, 115/120, 230/240 VAC "HR" type: 5, 12, 24, 48 vDC "LN" type: 5, 12, 24 VDC
Power consumption	0.9VA, 530mW (standard) 360mW (high sensitivity) 850mW (latching set), 600mW (latching reset)	400mW (430mW for 48VDC) "H" Type: 250mW	400mW	AC coil: 0.75VA "HR" type: 400mW "LN" type: 530mW
Insulation class	Class B available	Class F	Class F	—
Characteristics				
Operating temperature	-40 to +70°C (+85°C option)	-40 to +85°C	-40 to +105°C	-40 to +70°C (AC coil) -40 to +85°C (DC coil)
Impulse withstand voltage (1.2 x 50μ sec. unless noted)	10kV	10kV	10kV	10kV
Dielectric strength (50/60 Hz for 1 minute)	5,000VAC (coil-contact) 1,000 VAC (open contacts)	5,000VAC (coil-contact) 1,000 VAC (open contacts)	5,000 VAC, (coil-contact) 1,000 VAC, (open contacts)	6,000VAC (coil-contact) 1,000VAC (open contacts)
Terminal choices	PCB quick connect (flange mount)	PCB	PCB (coil terminals) Quick-connect (contact terminals)	PCB
Protection level	Sealed, semi-sealed	Fully sealed (except "H" type)	Semi-sealed	Semi-sealed
Accessories	N/A	N/A	N/A	N/A
Approved standards	UL, CSA, SEV SEMKO, VDE, TUV	UL, CSA, VDE	UL, CSA, VDE	UL, CSA, VDE

Relays - General Purpose

				
General Attributes	G2RV	G2R-S (S)	MY	LY
Dimensions mm (in)	99.2 H x 97.4 L x 6.2 W (3.91 x 3.83 x 0.24) max.	35.5 H x 29 L x 13 W (1.40 x 1.14 x .51)	36 H x 28 L x 21.5 W (1.42 x 1.10 x 0.85)	35.56 H x 27.94 L x 21.59 W (1.40 x 1.10 x 0.85)
Switching	6A max.	1 pole: 10A max. 2 pole: 5A max.	10A (2 pole); 5 A (4 pole)	1 pole: 15A 2-4 pole: 10A
Features	- Mechanical flag, clear case, and LED on socket provide quick easy proof of relay operation - Large quick connect terminals allow for reliable connection between relay and socket - Ideal for automation applications	- Nameplate and mechanical flag indicator standard - LED diode, and lockable test button option available - Wide variety of sockets including screwless clamp type	- Exceptional reliability - Push-to-test button standard - Arc barrier built into 4 pole - Options include LED Indicator, Diode, and test button - Name plate and mechanical indicator, standard	- Compact power relay - LED, Push-to-test button, bifurcated contacts and other features available - Space efficient power switching - Long life, 2 pole 500,000 ops, 1,3, and 4 pole 200,000 ops.
Contact Information				
Contact form	1 Form C	1 Form C 2 Form C	2 Form C, 4 Form C	1 Form C, 2 Form C, 3 Form C, 4 Form C
Contact type(s)	Single button	Single button	Single button, bifurcated	Single button, bifurcated
Contact material	Ag Alloy	Ag Alloy	Ag-Alloy	Ag-Alloy
Electrical service life (@ 1800 ops./hr.) (resistive load)	6A @ 250 VAC/ 30 VDC: 70,000 minimum (NO) 50,000 minimum (NC)	100,000 min. (at rated loads) (see data sheet for more information)	2P 500,000: 5A @ 30VDC/250VAC 4P 200,000: 3A @ 30VDC/250VAC 100,000: 3A@30VDC/250VAC (bifurcated)	200,000 min: 15A @ 24VDC/110VAC (1 pole) 10A @ 24VDC/110VAC 500,000 min: (2 pole) 10A @ 110VAC
Maximum switching capacity	1,500VA, 180W (resistive load)	2,500VA, 300W (1-pole resistive load)	2,500VA, 300W (NO)	1,650VA, 360W (1 pole)
Minimum permissible load (@1800 ops./hr.)	10mA @ 5VDC	100mA @ 5VDC , 10mA @ 5VDC (2 pole)	2 pole: 1mA @ 5VDC 4 pole: 1mA @ 1VDC 10µA @ 1 VDC (bifurcated contacts)	100mA @ 5VDC 10mA @ 5VDC (bifurcated contacts)
Coil Information				
Coil voltage	12, 24, 48VDC 24, 48, 110, 230VAC	6, 12, 24, 48VDC; 24, 110 120, 230, 240VAC	AC coils: 6, 12, 24, 120, 240 VAC DC coils: 6, 12, 24, 48, 110 VDC	6, 12, 24, 110/120, 220/240 VAC 6, 12, 24, 48, 100/110 VDC
Power consumption	see datasheet for details	0.9VA, 0.53W	AC Coil: 0.9 to 1.2VA DC Coil: 0.9W	1.1VA, 0.9W (1 pole); 1.1VA, 0.9W (DPDT); 1.6VA, 1.4W (3PDT); 1.95VA, 1.5W (4PDT)
Insulation class	—	—	—	—
Characteristics				
Operating temperature	-40°C to +55°C	-40 to +70°C	-55C to 70C	Carry current 4A or less: 1-3 pole: -25C to 70C 4 pole: -25C to 55C
Impulse withstand voltage (1.2 x 50µ sec. unless noted)	—	—	—	—
Dielectric strength (50/60 Hz for 1 minute)	4,000VAC (coil-contacts) 1,000VAC (open contacts)	1 pole:5,000VAC (coil-contacts) 1,000VAC (open contacts) 2 pole: 5,000VAC (coil-contacts) 3,000VAC (different polarity) 1,000VAC (open contacts)	2,000VAC (coil-contact) 1,000VAC (open contacts)	2,000VAC (coil-contact) 1,000VAC (open contacts)
Terminal choices	Relay: Quick connect Socket: Push-in wire or screw terminals.	Plug-in	PCB, plug-in	PCB, quick connect, plug-in
Protection level	Unsealed	Unsealed	Unsealed	Unsealed (other options possible)
Accessories	Replacement relays, cross bars, separator plates, labels, PLC interface, and interface cables	Sockets for track mount, sockets with screw terminals, & back connecting sockets with solder & PCB terminals. Note: P2RF-S series screwless clamp terminal socket available. SSR option: G3R.	Track mount sockets, clips, and DIN Rails	Sockets & clips for track mount sockets with screw terminals, & back connecting sockets with solder & PCB terminals
Approved standards	UL, CSA, VDE	UL, CSA, VDE	UL, CSA, VDE	UL, CSA

Relays - General Purpose

Coming
Soon!



General Attributes	MK-S	G7J	G7L
Dimensions mm (in)	52.58 H x 34.54 L x 34.54 W (2.07 x 1.36 x 1.36)	64 H x 53.5 L x 34.5 W (2.52 x 2.11 x 1.36)	49.02 H x 68.58 L x 34.54 W (1.93 x 2.70 x 1.36)
Switching	10 A max.	25A max.	30A max.
Features	• Octal base plug-in • IEC Rating 7A 250VAC, general use, 100,000 cycles • New two way lockable test button models available • Options include test button, LED Indicator, Diode, Varistor, and wiring styles • Wider operating temperature versus previous MK Relays.	• Variety of contact forms • Ideal for 3 phase motor control • UL 3 phase rating (NO) 5HP, 277VAC 30,000 cycles • Minimal chattering • UL94V-0	• Reliable high power relay • 3 mm contact gap • Conforms to IEC 950/UL 1950 • Class B insulation standard • Most cost effective solution in its class. • Ideal for pump, motor loads
Contact Information			
Contact form	2 Form C, 3 Form C	4 Form A, 3 Form A/1 Form B, 2 Form A/2 Form B	1 Form A-(Double Make) 2 Form A-(Double Make)
Contact type(s)	Single button	Single button	Single button
Contact material	Ag-Alloy	Ag Alloy	Ag Alloy
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000 min. 10A @ 250VAC/30VDC (NO)	100,000 min. (at rated loads) (see data sheet for more information)	100,000 min. (at rated loads) (see data sheet for more information)
Max. switching capacity under resistive load	2,500VA, 300W (NO)	5,500VA, 750W (NO contacts) 1,760VA, 240W (NC contacts)	Screw/Q.C. 6,600VA (1 pole) 5,500VA (2 pole)
Min. permissible load (for reference only)	100mA @ 1VDC	100mA @ 24VDC	100mA @ 5VDC
Coil Information			
Coil voltage	AC coils: 6, 12, 24, 120, 240 VAC DC coils: 6, 12, 24, 48, 110 VDC	6, 12, 24, 48, 100/110VDC; 24, 50, 100/120, 200/240VAC	12, 24, 48, 100VDC; 12, 24, 100/120, 200/240VAC
Power consumption	Approx. 2.3VA 60Hz, 1.4W	1.8 to 2.6VA, 2.0W	1.7 to 2.5VA, 1.9W
Insulation class	—	Class B available	Class B
Characteristics			
Operating temperatur	LED Type: -25C to 60C non LED: -40C to 60C	-25°C to +60°C	-25C to +60C
Impulse withstand voltage (1.2 x 50μ sec. unless noted)	—	10kV (coil-contacts)	10kV (coil-contacts)
Dielectric strength (50/60 Hz for 1 minute)	2,500VAC (coil-contact) 1,000VAC (open contacts)	4,000VAC (coil-contacts) 4,000VAC (different polarity) 2,000VAC (open contacts)	4,000VAC (coil-contacts) 2,000VAC (different polarity) 2,000VAC (open contacts)
Terminal choices	Plug-in	Quick-connect, screw, PCB	Quick-connect, screw, PCB
Protection level	Unsealed	Unsealed Semi-sealed (PCB type only)	Unsealed Semi-sealed (PCB type only)
Accessories	Track mount sockets, clips, and DIN Rails	R99-04-F0R-G5F bracket	R99-07G5D E bracket; P7LF-D adapter; P7LF-06 front connecting socket
Approved standards	UL, CSA, TUV	UL, CSA, TUV, CE, IEC	UL, CSA, TUV

Relays - General Purpose

	NEW! 		
General Attributes	G7Z	MGN	MJN
Dimensions mm (in)	84 H x 62 L x 45 W (3.31 x 2.44 x 1.77)	Short Base: 55.88 H x 63.50 L x 63.50 W (2.20 x 2.50 x 2.50) Long Base: 60.45 H x 84.33 L x 63.50 W (2.38 x 3.32 x 2.50)	48.38 H x 35.56 L x 38.73 W (1.91 x 1.40 x 1.53)
Switching	40A max.	30A max.	10A, 20A, 30A (UL ratings) (see: Electrical service life)
Features	- Carry up to 160A for 4 pole NO all terminals tied in parallel - Nominal power 3.7W - Reduced size versus typical IEC-AC1 50A contactor - NC auxiliary contact can be used to monitor contact weld on Main NO Contacts.	30 Amp heavy duty power relay - Class F coil insulation system for 155°C (total temperature) - Coil molded in DuPont Rynite® for environmental protection - Rugged construction rivets terminals to base - Magnetic blow-out option	- Rugged power driver offers superior 3/16" through-air & 3/8" over-surface spacing - Interlocked frame & contact block prevent contact misalignment during plug-in - Indicator lamp, push-to-operate options 10A-30A in same package - Continuous duty at 125% coil voltage
Contact Information			
Contact form	4A, 3A/1B, 2A/2B	1 Form A, 1 Form B, 1 Form C, 2 Form A, 2 Form C (long base)	1 Form C, 2 Form C, 3 Form C (monostable); 2 Form C (latching)
Contact type(s)	Single button (Load) Bifurcated Crossbar (Aux.)	Single button	Single button
Contact material	AgSnIn	5/16" diameter AgCdO ₂	3/16" diameter AgCdO ₂
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: 5A @ 110VDC (at 1,200 ops/hr) 80,000: 40A @ 440VAC	100,000 min. 30A @ 28VDC/240VAC	100,000 min. 10A @ 28VDC/240VAC 20A @ 28VDC/277VAC 30A @ 28VDC
Max. Switching Capacity (resistive load)	17,600VA, 550W 440VA, 110W (aux. contact block)	N/A	N/A
Minimum permissible load (@1800 ops./hr.)	2A @ 24VDC 1mA @ 5VDC (auxiliary contact block)	N/A	N/A
Coil Information			
Coil voltage	12, 24VDC	6, 12, 24, 120, 240, 480VAC; 6, 12, 24, 48, 110VDC	6, 12, 24, 120VAC 5, 6, 12, 24, 48, 110VDC
Power consumption	3.7W	9.5VA nominal; 2W nominal	AC 1.7VA (1, 2PDT) 2.0VA (3PDT DC 1.2W)
Insulation class	—	Class F	—
Characteristics			
Operating temperature	-25°C to +60°C	At 30Amps: -45°C to +80°C (AC coil) -45°C to +115°C (DC coil)	-45°C to +60°C (1 & 2 pole AC coil), + 70°C (DC coil) -45°C to +45°C (3 pole AC coil) -45°C to +70°C (3 pole DC coil)
Impulse withstand voltage (1..2 x 50μ sec. unless noted)	10kV (coil to contacts or different polarity) 4.5kV (open contacts)	N/A	N/A
Dielectric strength (50/60 Hz for 1 minute)	4,000VAC (coil-contacts) 4,000VAC (different polarity) 2,000VAC (open contacts)	2,200Vrms, 60Hz between contacts; 2,200Vrms, 60Hz between other elements	750VAC, rms 60Hz across open contacts; 2,500VAC, rms 60Hz all other mutually insulated elements
Terminal choices	Screw	Screw	Quick-connect plug-in
Protection level	Unsealed	Unsealed	Unsealed
Accessories	Auxiliary contact blocks	Aluminum dust cover - sealed knock-out holes for standard conduit fittings. Relay mounts on pre-drilled base. Snap action cover release 127 W x 76.20 H x 101.60 D (5 x 3 x 4)	PTF11PC Socket; PTF11QDC Socket; PTF21PC Socket; PTFPCB Socket; PYMJN-PCB Retaining Clips; PYMJN-S Retaining Clips
Approved standards	UL, CSA, TUV	UL, CSA	UL, CSA

Relays - DC Power

Interrupt High-capacity DC Loads while Enabling Compact, Low-noise, Safe Applications



General Attributes	G9EA		G9EB	G9EC
Model	G9EA-1(-B)	G9EA-1(-B)-CA	G9EB (-1B)	G9EC-1(-B)
Classification	Switching/current conduction	High-current conduction	Switching/current conduction	Switching/current conduction
Features	Standard compact model carries/switches 400VDC, 60A loads	Carries 100A Low contact resistance when carrying current	Smallest in series 250VDC, 25A loads	Largest capacity in series Carries/switches 400V, 200A loads
Contact Information				
Contact form	SPST-NO	SPST-NO	SPST-NO	SPST-NO
Contact structure	Double-break, single	Double-break, single	Double-break, single	Double-break, single
Contact resistance	30mΩ max. (0.6mΩ typical)	10mΩ max. (0.3mΩ typical)	30mΩ max.	30mΩ max. (0.2mΩ typical)
Switching voltage drop	0.1V max. (for a carry current of 60A)	0.1V max. (for a carry current of 100A)	0.1V max (for a carry current of 25A)	0.1V max. (for a carry current of 200A)
Electrical endurance	120VDC, 100A, 3,000 operations min. 400VDC, 60A, 3,000 operations min. 400VDC, 30A, 30,000 operations min.	400VDC, 30A, 1,000 operations min. 120VDC, 30A, 2,500 operations min.	250VDC, 25A, 30,000 operations min.	400VDC, 200A, 3,000 operations min.
Max. switching current	100A	30A	25A	200A
Rated carry current	60A	100A	25A	200A
Short-time carry current	100A (10 min.)	150A (10 min.)	50A (5 min.), 40A (10min.)	300A (15min.)
Max. interruption current	600A @ 300VDC (5 times)	—	100A @ 250VDC (5 times)	1,000A @ 400VDC (10 times)
Overload interruption	180A @ 400VDC (100 times min.)	100A @ 120VDC (150 times min.)	50A @ 250VDC (50 times min.)	700A @ 400VDC (40 times min.)
Reverse polarity interruption	-60A @ 200VDC (1,000 times min.)	—	—	-200A @ 200VDC (1,000 times min.)
Coil Information				
Rated voltage	12, 24, 48, 60 & 100VDC	12, 24, 48, 60 & 100VDC	12, 24, 48, 60 & 100VDC	12, 24, 48, 60 & 100VDC
Power consumption	Approx. 5 to 5.4W	Approx. 5 to 5.4W	Approx. 2W	Approx. 11W
Mechanical endurance	200,000 operations min.	200,000 operations min.	100,000 operations min.	200,000 operations min.
Insulation resistance				
Between Coil & Contacts	1,000MΩ min.	1,000MΩ min.	1,000MΩ min.	1,000MΩ min.
Between contacts of the same polarity	1,000MΩ min.	1,000MΩ min.	1,000MΩ min.	1,000MΩ min.
Dielectric strength				
Between coil & contacts	2,500VAC for 1min.	2,500VAC for 1min.	2,500VAC for 1min.	2,500VAC for 1min.
Between contacts of the same polarity	2,500VAC for 1min.	2,500VAC for 1min.	2,500VAC for 1min.	2,500VAC for 1min.
Impulse withstand voltage	4,500V	4,500V	4,500V	4,500V
Ambient operating temperature	-40 to +70°C (with no icing or condensation)	-40 to +70°C (with no icing or condensation)	-40 to +70°C (with no icing or condensation)	-40 to +50°C (with no icing or condensation)
Terminals				
Screw terminals	Yes	Yes	Yes	Yes
Lead wire output	Yes	Yes	No	Yes
Approvals	UL, CSA, UL508	UL, CSA, UL508	—	UL, CSA, UL508

Relays - Solid State

	SIP	SIP	SIP	DIP
				
General Attributes	G3M	G3MB	G3MC	G3DZ
Dimensions mm (in)	20 H x 40 L x 9 W (0.79 x 1.58 x 0.35)	20.5 H x 24.5 L x 5.5 W (0.81 x 0.96 x 0.22)	13.5 H x 24.5 L x 4.5 W (0.53 x 0.96 x 0.18)	12.5 max. H x 18.5 L x 6.5 W (0.49 x 0.73 x 0.26) max.
Switching current (resistive)	2A, 3A, 5A @ 240VAC	2A @ 240VAC	1A @ 120VAC 2A @ 240VAC	0.6A @ 240VAC 0.6A @ 100VDC
Features	• Zero cross models • Space-saving SIP design • Ideal for high density Power PCB applications • High current switching capability	• Bottom surface area is less than 1/2 of G3M • Special 7-20mA input models available • Two footprints for design flexibility	• Reduced height thin profile SIP • Ideal for close PCB mounting • Monoblock construction results in ultimate reliability • Industry standard footprint	• AC/DC & AC half-wave switching with one model • 10µA max. leakage current • Matches G6D form factor
Operating temperature	-30°C to +80°C	-30°C to +80°C	-30°C to +80°C	-30°C to +85°C
Operating input	5, 12, 24VDC	5, 12, 24VDC (Current controlled versions are available.)	5, 12, 24VDC	5, 12, 24VDC
Output voltage	75-264VAC	75-264VAC	75-264VAC	5-240VAC 5-100VDC
Leakage Current (max.)	2mA @ 100VAC/5mA @ 200VAC (2Amp versions) 1.5mA @ 200VAC (3 & 5 Amp versions)	1.5mA (at 200VAC)	1.5mA (at 200VAC)	10µA (at 125VDC)
Isolation	Phototriac	Phototriac	Phototriac	Photodiode array
Dielectric strength (50/60Hz for 1 min.)	2,000VAC (2A versions) 2,500VAC (3A and 5A versions)	2,500VAC	2,500VAC	2,500VAC
Zero crossing	Optional	Optional	Yes	No
Snubber circuit	No	Optional	Yes	No
Life (MTTF)	100,000 hours	100,000 hours	100,000 hours	100,000 hours
Mounting	PCB	PCB	PCB	PCB or PCB socket
Terminal	PCB	PCB	PCB	PCB
Approvals	"UTU" models: UL, CSA, TUV	"UTU" models: UL, CSA, TUV	"VD" models: UL, CSA, VDE	UL, CSA
Equivalent Omron EMR footprint	N/A	N/A	N/A	G6D
Optional heat sink	N/A	N/A	N/A	N/A
Socket	N/A	N/A	N/A	P6D-04P

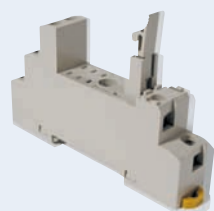
Relays - Solid State

	DIP	DIP		SIP
				
General Attributes	G3S/G3SD	G3CN	G3R I/O	G3TB
Dimensions mm (in)	16.5 H x 20 L x 10 W (0.65 x 0.79 x 0.39)	Vertical type 26.5 H x 33 L x 14 W (1.04 x 1.30 x 0.55) max. Flat type 14.5 H x 33 L x 25 W (0.57 x 1.30 x 0.98) max.	Input & Output modules: 28 H x 29 L x 13 W (1.10 x 1.14 x 0.51)	Input module: 20.5 H x 43.5 L x 10 W (0.81 x 1.70 x 0.39) Output module: 30.5 H x 43.5 L x 10 W (1.20 x 1.70 x 0.39)
Switching	1A @ 240VAC (1.2A, G3S-PD & heatsink) (1.1A, G3SD-PD & heatsink)	AC models: 2A or 3A @ 240VAC DC models: 2A or 3A @ 48VDC	Input module: 100mA; Output module: 2A	Input module: 25mA @ 4 to 32VDC Output module: 3mA max. @ 5 to 48VDC 3mA max. @ 100 to 240 VAC 1.5 max. @ 48 to 200 VDC
Features	- AC and DC models available - Socketable - Heatsink, available - Same footprint as G6B (1 Form A standard type)	- Low profile "Flat" type has 14.5mm max. height - AC and DC load models - Zero cross models - Input voltage 3-28VDC possible	4 kV insulation - Operation indicator standard - Footprint is similar to G2R-S(S) - Ideal for DIN rail mount I/O	- Color-coded input & output modules - Industry standard footprint 4kV dielectric strength - LED indicator
Operating temperature	-30°C to +80°C	-30°C to +80°C	-30°C to +80°C	-30°C to +80°C
Operating input	5, 12, 24VDC	5, 12, 24; 3~28VDC	Input module: 5VDC; 6.6-32VDC; 60-264VAC; Output module: 4-32VDC	Input module: 80-264VAC, 3-32VDC; Output module: 3-32VDC
Output voltage	"201" models 100-240VAC "201" models 4-24VDC	75~264VAC 3~53VDC	Input module: 4-32VDC; Output module: 75-264VAC, 4-200VDC	Input module: 4-32VDC; Output module: 75-264VAC, 4-200VDC
Leakage Current (max.)	2mA (G3S) 0.1mA @ 26VDC (G3SD)	AC loads: 10mA @ 200VAC (fast on): 5mA @ 200VAC DC loads: 5mA @ 50VDC	Input Module: 5µA Output Module: 1.5mA (AC) 1mA (DC)	Input module: 100µA max. Output module: 5mA @ 200VAC (AC) 1mA max. (DC)
Isolation	Phototriac (G3S) Photocoupler (G3SD)	Phototriac Photocoupler	Photocoupler, Phototriac	Photocoupler
Dielectric strength (50/60Hz for 1 min.)	2,500VAC	2,500VAC	4,000VAC	4,000VAC
Zero crossing	Optional	Optional	Input module: No; Output module: Yes	Input module: No; Output module: Yes
Snubber circuit	Yes (AC load models only)	No	No	Input module: No; Output module: Yes
Life (MTTF)	100,000 hours	100,000 hours	100,000 hours	100,000 hours
Mounting	PCB or Socket	PCB	Socket	PCB
Terminal	PCB	PCB	Plug-in	PCB
Approvals	"US" models: UL, CSA	"US" models: UL, CSA	UL, CSA, TUV	"US" models: UL, CSA
Equivalent Omron EMR footprint	G6B	N/A	G2R	N/A
Optional heat sink	Y92B-S08N	N/A	N/A	N/A
Socket	P6B-04P (PCB)	N/A	P2RF-05E	N/A

Relays - Solid State

General Attributes	SIP	Quick Connect	Quick Connect	
	G3TC	G3NE	G3NA	G3PE
Dimensions mm (in)	31.8 H x 43.2 L x 15.2 W (1.25 x 1.7 x 0.6)	11.5 H x 47 L x 37.5 W (0.45 x 1.90 x 1.50)	27 H x 58 L x 43 W (1.06 x 2.28 x 1.69)	100 H x 84 L x 22.5 W 15A, 25A Models 100 H x 84 L x 44.5 W 35A, 45A Models (dimensions apply to single phase models only)
Switching current (resistive) (max.)	Input module: 12mA, 15mA, or 18mA (depending on model) Output module: 3A (1A on DC output models rated < 200VDC)	20A max. @ 240VAC (264VAC max.)	Versions range from 10A to 90A max. (when using heat sink)	Models range from 15A to 45A
Features	- Color-coded modules - Industry standard footprint - Built-in anchor screw - Optical isolation – Dielectric 4kV - Zero cross on AC output modules	- High capacity - Panel Mount - Quick-connect terminals - Low profile of 11.5mm height	- Ideal for industrial controls & commercial cooking "Hockey Puck" standard - Operation indicator standard	- Industrial SSR with attached heatsink - Zero cross or Fast turn on models - Panel or track mounting
Operating temperature	-30°C to +80°C	-30°C to +80°C	-30°C to +80°C	-30C to +80C
Operating input	Input module: 90-140VDC/AC, 180-280 VDC/ AC, 10-32VDC/AC Output module: 5, 15, 24VDC	5, 12, 24VDC	4-32VDC; 75-264VAC	12-24VDC
Output voltage	Input module: 4.5-6VDC, 12-18VDC, 20-30VDC Output module: 75-140 VAC, 75-280VAC, 5-60 VDC, 5-200VDC	75-264VAC	19 - 264VAC 180 - 528VAC 4 - 220VDC (10A model) 400 - 600VAC (10, 25, 50A models)	100-240VAC
Leakage Current (max.)	Input module: 100µA AC Output modules: 5mA @ 240VAC 2.5mA @ 120VAC DC Output modules: 1mA	2mA (at 100VAC) 5mA (at 200VAC)	5mA @ 100VAC 10mA @ 200VAC 20mA @ 400VAC	10mA (200VAC)
Isolation	AC Input, DC Input, DC Output: Photocoupler AC Output: Phototriac	Phototriac	Phototriac, Photocoupler	Phototriac
Dielectric strength (50/60Hz for 1 min.)	4,000VAC	2,000VAC	2,500VAC 4000VAC (75 and 90A models)	2,500VAC
Zero crossing	Yes (AC output modules only)	Optional	Yes	Yes
Snubber circuit	Yes (AC output modules only)	Yes (built in varistor)	Yes	Yes
Life (MTTF)	100,000 hours	100,000 hours	100,000 hours	100,000 hours
Mounting	PCB with anchor screw	Panel	Panel	Panel, DIN
Terminal	PCB	Quick connect	Screw	Screw
Approvals	UL, CSA, TUV, CE	"US": UL, CSA, TUV	"UTU": UL, CSA, TUV	UL, CSA, TUV
Equivalent Omron EMR footprint	N/A	N/A	N/A	N/A
Optional heat sink	N/A	Y92B-N50, -N100	Y92B-A □, -B □, -P □	N/A
Socket	N/A	DIN Adapter available	DIN Adapter available	N/A

Sockets



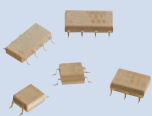
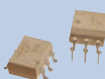
Relay Type	Track Mount Sockets	Back Connecting Sockets	
		Solder terminals	PCB terminals
G2R-1-S	P2RF-05 P2RF-05-E P2RF-05-S	P2R-05A	P2R-05P
G2R-2-S	P2RF-08 P2RF-08-E P2RF-08-S	P2R-08A	P2R-08P
G2RV	G2RL-SL500, -SL700	—	—
G6B	—	—	P6B-04P (1-pole), P6B-26P (2-pole)
G6D	—	—	P6D-04P
G6BK	—	—	P6B-06P
G6BU	—	—	P6B-04P
G6C-1, G6C-2	—	—	P6C-06P
G6CK	—	—	P6C-08P
G6CU	—	—	P6C-06P
LY1, LY2	PTF08A-E	PT08	PT08-0
LY3	PTF11A	PT11	PT11-0
LY4	PTF14A-E	PT14	PT14-0
MK2	PF083A-E	PL08	PLE08-0
MK3	PF113A-E	PL11	PLE11-0
MY2	PYF08A-E PYF08A-N PYF08-S	PY08	PY08-02
MY3	PYF11A	PY11	PY11-02
MY4	PYF14A-E PYF14A-N PYF14S	PY14	PY14-02
MY2K	PYF14A-E	PY14	PY14-02
MY4(Z)H	PYF14A-E	—	—

NOTES: 1. -E and -N models are finger-protect construction. Round terminals cannot be used. Use Y-shaped terminals.
2. -S types are screwless terminal styles.

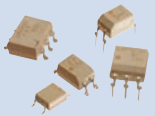
Relay Type	Mounting	Adaptor	Front Connecting Socket
	Bracket	Track Mount/Panel Mount	Track Mount/Panel Mount
G7J-(ALL)	R99-04-F0R-G5F W bracket	—	—
G7L-1A-T	R99-07G5D E bracket	P7LF-D	P7LF-06
G7L-1A-TJ			P7LF-06
G7L-1A-B			—
G7L-1A-BJ			—
G7L-2A-T			P7LF-06
G7L-2A-TJ			P7LF-06
G7L-2A-B			—
G7L-2A-BJ			—

Terminal Cover	Socket Bridge
P&LE-C	PYD

Relays - MOS FET

					
<i>General Attributes</i>	G3VM-200	G3VM-350	G3VM-400	G3VM High Voltage & Dielectric	G3VM Current Limiting
Dimensions mm (in)	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information
Features	1 & 2 channel configurations - Ideal for Instrumentation, Broadband Systems, Measurement Devices, Data Loggers, Consumer Electronics, Medical Equipment	- Broad product offering - Form A & Form B configurations - Ideal for Instrumentation, Broadband Systems, Measurement Devices, Data loggers, Consumer Electronics, Security Systems, Electronic Automatic Exchange Systems, Industrial Automation Equipment, Medical Equipment	- Broad product offering 10kV surge withstand models available - Ideal for Instrumentation, Broadband Systems, Measurement Devices, Data Loggers, Consumer Electronics, Security Systems, Electronic Automatic Exchange Systems, Industrial Automation Equipment, Medical Equipment	- Capable of switching loads up to 600V (AC and DC) 10kV surge withstand - Ideal for Instrumentation, Electronic Automatic Exchange Systems, Industrial Automation Systems, Measurement Devices, Security Systems, Medical Equipment	- Current limiting of 150 to 300mA - Ideal for Electronic Automatic Exchange Systems, Multi-function Telephones, Cordless Telephones, Measurement Devices, Instrumentation
Lead voltage	0-200V (AC or DC)	0-350V (AC or DC)	0-400V (AC or DC)	0-600V (AC or DC)	0-350V (AC or DC)
Maximum Ratings and Electrical					
Continuous load current	0-50mA & 0-200mA	0-90mA, 0-100mA, 0-110mA, 0-120mA, 0-150mA	0-120mA	0-100mA	0-120mA
ON resistance (typical)	5 & 30	15, 27, 30, 25, 40	17 & 18	25	22
Output capacitance	—	—	—	—	—
Available switching configurations	1 Form A, 2 Form A	1 Form A, 1 Form B, 1 Form A + 1 Form B 2 Form A, 2 Form B	1 Form A, 2 Form A	1 Form A	1 Form A, 2 Form A
Leakage current	10nA (max.) & 1.0µA (max.)	1.0µA (max.)	1.0µA (max.)	1.0µA (max.)	1.0µA (max.)
turn-ON time (typical)	40ms & 600ms	0.1ms, 0.25ms, 0.3ms, 0.5ms, 1.0ms	0.3ms & 0.5ms	0.2ms	0.3ms & 0.5ms
turn-OFF time (typical)	100ms	0.1ms, 0.15ms, 0.5ms, 1.0ms, 3.0ms	0.1ms & 0.5ms	0.2ms	0.3ms & 0.5ms
Dielectric strength (AC for 1 minute between input and output)	1,500Vrms (min.)	1,500Vrms (min.) 2,500Vrms (min.)	1,500Vrms (min.) 2,500Vrms (min.) 5,000Vrms (min.)	5,000Vrms (min.)	1,500Vrms (min.) 2,500Vrms (min.)
Available packaging & terminal choices	SOP 4 PIN, 6 PIN, 8 PIN	PCB, SMT, SOP 4 PIN, 6 PIN, 8 PIN	PCB, SMT, SOP 4 PIN, 6 PIN, 8 PIN	PCB & SMT 6 PIN	PCB, SMT & SOP 4 PIN, 6 PIN, 8 PIN
Accessories	Tape & reel	Tape & reel	Tape & reel	Tape & reel	Tape & reel
Approved standards	UL 1577	UL 1577	UL 1577	UL 1577	UL 1577

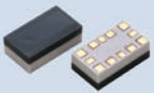
Relays - MOS FET

				
<i>General Attributes</i>	G3VM GR	G3VM LR	G3VM-60	G3VM-80
Dimensions mm (in)	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information
Features	• C x R characteristics as low as 5pF* • Low leakage current • Very high operating speed • Ideal for IC and Memory Test Equipment, SoC Testers, Measurement Devices, Instrumentation, Medical Equipment, Broadband Systems, Data Loggers, Security Systems	• Smallest MOS FET relay on the market • C x R characteristics as low as 5pF* • Low leakage current • Very high operating speed • Ideal for IC and Memory Test Equipment, SoC Testers, Measurement Devices, Instrumentation, Medical Equipment, Broadband Systems, Data Loggers, Security Systems	• High current switching capability • Low ON-resistance • Low leakage current • Cost effective solutions • Ideal for Measurement Devices, Instrumentation, Security Systems, Medical Equipment, Alarm Controls, Consumer Electronics	• High current switching capability • Low leakage current • Ideal for Broadband Systems, Measurement Devices, Instrumentation, Medical Equipment, Data Loggers, Consumer Electronics
Lead voltage	0-20V (AC or DC) 0-40V (AC or DC)	0-20V (AC or DC) 0-40V (AC or DC)	0-60V (AC or DC)	0-80V (AC or DC)
Maximum Ratings and Electrical Characteristics Continuous load current	0-120mA 0-160mA 0-300mA	0-120mA 0-160mA 0-300mA 0-450mA	0-400mA 0-500mA 0-1,000mA 0-2,000mA 0-2,500mA	0-350mA 0-1,250mA
ON resistance (typical)	1, 5, 10	0.8, 1, 5, 10	0.12 (max.) 7 (max.) 1 (typ.)	0.11 & 1.0
Output capacitance	1.0pF (typ.) 5.0pF (typ.) 10pF (typ.)	0.8pF (typ.) 1.0pF (typ.) 5.0pF (typ.) 10pF (typ.)	—	—
Available switching configurations	1 Form A	1 Form A	1 Form A	1 Form A
Leakage current	1.0nA (max.)	1.0nA (max.)	1.0nA (max.) & 1.0μA (max.)	0.2nA (typ.) & 1.2nA (typ.)
turn-ON time (typical)	0.3ms	0.3ms	0.8ms 1.0ms 1.4ms	0.3ms 2.0ms
turn-OFF time (typical)	0.3ms	0.3ms	0.1ms 0.2ms 0.6ms	0.3ms 0.7ms
Dielectric strength (AC for 1 minute between input and output)	1,500Vrms (min.)	1,500Vrms (min.)	1,500Vrms (min.) 2,500Vrms (min.)	1,500Vrms (min.)
Available packaging & terminal choices	SOP 4 PIN	SOP 4 PIN	SOP, PCB, SMT 4 PIN, 6 PIN	SOP 4 PIN, 6 PIN
Accessories	Tape & reel	Tape & reel	Tape & reel	Tape & reel
Approved standards	UL 1577	UL 1577	UL 1577	UL 1577

Relays - HF/RF

			
General Attributes	G6W	G6Y	G6Z
Dimensions mm (in)	8.9 H x 20 L x 9.4 W (0.35 x 0.79 x 0.37)	9.20 H x 20.70 L x 11.70 W (0.36 x 0.81 x 0.46)	8.9 H x 20 L x 8.6 W (0.35 x 0.79 x 0.34)
Switching	0.5A max.	1A max.	0.5A max.
Features	• 5GHz+ HF relay • 1 Form C • Tri-plate micro strip line technology • Latching & non-latching models • SMT and PCB versions • Ideal for Base Station LNA & TMA switching, Test & Measurement, Broadcast, FWA	• 900MHz+ HF relay • 1 Form C • Micro strip line technology • Ideal for CATV, Digital TV tuners, Test & Measurement	• 2.6GHz+ HF relay • 1 Form C • Micro strip line technology • 75 & 50 impedance models • Latching & non-latching models • Reverse terminal configurations • Y & E terminal configurations • SMT and PCB versions • Ideal for Base Station LNA & TMA switching, CATV, Digital TV tuners, Test & Measurement, Broadcast, FWA
HF Characteristics			
Isolation	65dB (2GHz) 60dB (2.5GHz) 40dB (5.0GHz)	65dB (900MHz)	60 - 65dB (900MHz) 30 - 45dB (2.6GHz)
Insertion loss	0.2dB (2GHz) 0.2dB (2.5GHz) 0.4dB (5.0GHz)	0.5dB (900MHz)	0.1 - 0.2dB (900MHz) 0.3 - 0.5dB (2.6GHz)
VSWR	1.2 (2GHz) 1.2 (2.5GHz) 1.5 (5.0GHz)	1.5 (900MHz)	1.1 - 1.2 (900MHz) 1.3 - 1.5 (2.6GHz)
Contact Information			
Contact form	1 Form C	1 Form C	1 Form C
Contact type(s)	Twin crossbar	Twin crossbar	Twin crossbar
Contact material	Au clad Cu alloy	Au clad Cu alloy	Au clad Cu alloy
Rated load (under resistive load)	10mA @ 30VAC 10mA @ 30VDC 2.5GHz, 10W	10mA @ 30VAC; 10mA @ 30VAC; 900 MHz, 1W	10mA @ 30VAC; 10mA @ 30VDC; 900MHz, 10W
Max. operating voltage	30VDC, 30VAC	30VDC, 30VAC	30VDC, 30VAC
Max. switching capacity under resistive load	10VA, 10W	10VA, 10W	10VA, 10W
Min. electrical service life (operations at rated load)	300,000	300,000	300,000
Coil Information			
Coil voltage	3, 4.5, 9, 12, 24VDC	3, 4.5, 5, 6, 9, 12, 24VDC	3, 4.5, 5, 9, 12, 24VDC
Power consumption	200mW (standard) 200mW (single latching) 360mW (dual latching)	200mW	200mW (standard) 200mW (single latching) 360mW (dual latching)
Characteristics			
Dielectric strength between coil & contacts (50/60 Hz for 1 minute)	1,000VAC	1,000VAC	1,000VAC
Terminal choices	PCB, SMT Gullwing	PCB	PCB, SMT Gullwing
Packaging / Options	—	—	Tape & reel available

Relays - HF/RF and MEMS

		NEW! 	NEW! 
General Attributes	G6K-RF	G9YA	2SMES-01
Dimensions mm (in)	5.4 H x 10.3 L x 6.9 W (0.21 x 0.41 x 0.27)	39.0 H x 34.0 L x 13.2 W (1.54 x 1.34 x 0.52)	1.8 H x 5.2 L x 3.0 W (0.07 x 0.20 x 0.12)
Switching	1A max.	100mA max.	No hot switching (>0.5mA@0.5VDC)
Features	1GHz+ HF relay 2 Form C 100mW coil power - Smallest 2 Form C on the market - Ideal for Test & Measurement, CATV, Digital TV tuners - New "-S" terminal arrangement facilitates end-to-end PCB layout.	26.5GHz bandwidth - Coaxial HF relay 60dB isolation (26.5GHz) - Contact carry power of 120W at 3GHz - Available in failsafe & TTL-driven models - Also available in non-latching and dual latching configurations - Ideal for Mobile Communications Infrastructure Equipment, Broadcast Equipment, Test and Measurement Equipment, Wireless LAN	- Superior high-frequency characteristics at 10 GHz typical / 8 GHz rated (50Ω) - Isolation of 30 dB - Insertion loss of 1dB - Return loss of 10 dB - Ultra-miniature 5.2x3.0x1.8 mm (LxWxH). - Contact Reliability 100million operations (0.5mA at 0.5VDC Resistive load) - Rated power consumption of 10μW
HF Characteristics			
Isolation	20 - 30dB (1GHz)	60dB (26.5GHz) 65dB (12.4GHz)	30dB (10GHz typical, 8GHz rated)
Insertion loss	0.2dB (1GHz)	0.8dB (26.5GHz) 0.4dB (12.4GHz) 0.3dB (8GHz)	1dB (10GHz typical, 8GHz rated) 3dB (12GHz rated)
VSWR	0.2dB (1GHz)	1.7 (26.5GHz) 1.35 (12.4GHz) 1.25 (8GHz)	1.2 at rated load
Contact Information			
Contact form	2 Form C	1 Form C 2 Form C* (Transfer Contacts)	SPDT (transfer contacts)
Contact type(s)	Bifurcated crossbar	Twin crossbar	Single-side stable
Contact material	Au alloy on Ag base	Au clad Cu alloy	Proprietary
Rated load (under resistive load)	0.3A @ 125VAC; 1A @ 30VDC	100mA @ 30VDC	100mA @ 10VDC (carry) RF: 30dB
Max. operating voltage	60VDC, 125VAC	30VDC	0.5VDC (switching)
Max. switching capacity under resistive load	37.5VA, 30W	120W (3GHz)	0.25mW
Min. electrical service life (operations at rated load)	300,000	5,000,000	100M
Coil Information			
Coil voltage	3, 4.5, 5, 6, 9, 12, 24VDC	4.5, 5, 12, 15, 24, 28VDC	No Coil MEMS Electrostatic Drive 34VDC +/-5%
Power consumption	100mW	500mW (dual latching 700mW (failsafe))	10μW
Characteristics			
Dielectric strength between coil & contacts (50/60 Hz for 1 minute)	750VAC	500VAC	No Dielectric rating ESD 100V (Human Body Model)
Terminal choices	SMT Gullwing	SMA Terminals, Solder Terminals, Pin Terminals, Connector Cables	LGA12
Packaging / Options	—	—	50 pc IC pack & 200 pc JEDEC tray

*Coming Soon

Technical Considerations

Omron Electronic Components has a great variety of standard options. We can deliver a snap action switch that will drop right into your application. Saving you time, component counts, & cost while improving your products overall quality.

These options include:

Actuators:

- Long & short panel mount plungers
- Long & short spring plungers
- Hinge levers in various lengths & orientation
- Roller levers in various lengths & orientations
- Simulated roller
- Leaf

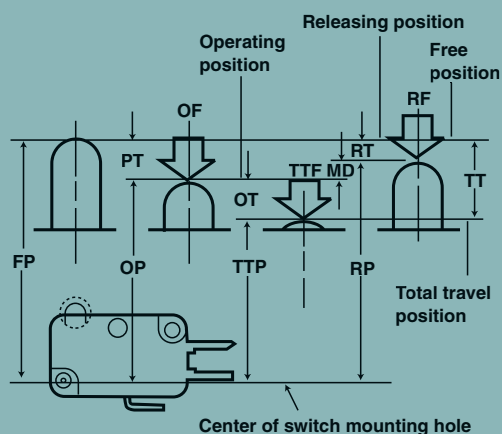
Termination styles:

- PCB
- Solder
- Quick Connect
- Screw
- Wire Leads
- Connector

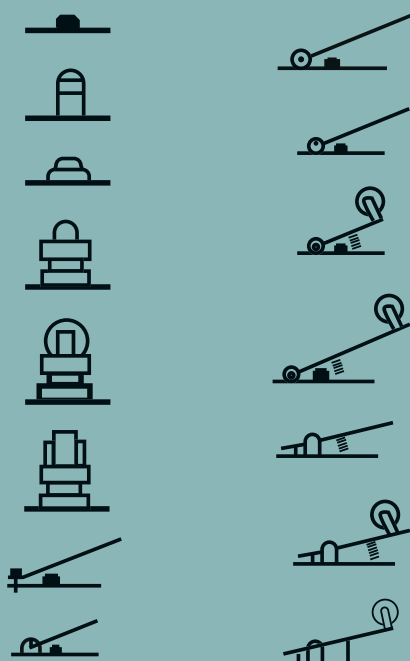
Additional Features:

- Sealed / Unsealed versions available.
- Class N (200C) types available. (D3V-T)

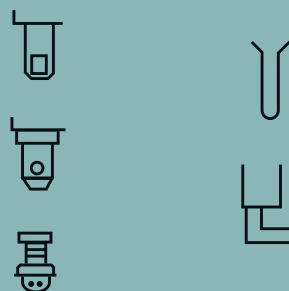
Contact Omron Components and have it your way. Configure a switch that meets your application needs.



Plunger & Lever Options



Terminal Options



Switches - Snap Action

				
	Z	A	X	DZ
Dimensions mm (in)	24.2 H x 17.45 D x 49.2 W (0.95 x 0.69 x 1.93)	24.2 H x 17.45 D x 49.2 W (0.95 x 0.69 x 1.93)	24.2 H x 17.45 D x 49.2 W (0.95 x 0.69 x 1.93)	22.7 H x 17.45 D x 49.2 W (0.89 x 0.69 x 1.93)
Features	- General Purpose Snap Action Switch - High precision 15 A switch available in a variety of styles	- General Purpose Snap Action Switch - High capacity switch handles loads with large inrush currents	- DC switch - Magnetic blowout to extinguish arc	- DPDT basic switch - Incorporates two completely independent built-in switches - Can switch two independent circuits operating on different voltages
Contact Rating(s) Resistive load	0.1A @ 125VAC 15A @ 250VAC*	20A @ 250VAC	10A @ 125VDC 3 A @ 250VDC	10A @ 250VAC
Contact form	SPDT	SPDT	SPDT	DPDT
Operating force (OF)*	250g to 350g	400g to 625g	510g	570g
Mechanical service life	Refer to "SPECIFICATIONS" section of data sheet for detailed service life information	1,000,000 ops. min. (at rated OT load)	1,000,000 operations min.	1,000,000 operations min.
Electrical service life	Refer to "SPECIFICATIONS" section of data sheet for detailed service life information	500,000 ops. min. (at rated OT load)	100,000 operations min.	500,000 operations min.
Mounting pitch mm (in)	25.4 (1.0)	25.4 (1.0)	25.4 (1.0)	25.4 (1.0)
Actuator types	Pin plunger, slim spring plunger, short spring plunger, panel mount plunger, panel mount roller plunger, panel mount cross roller plunger, hinge lever, low force hinge lever, short hinge roller lever, hinge roller lever, unidirectional short hinge roller lever, spring plunger, flexible rod	Pin plunger, short spring plunger, panel mount plunger, panel mount roller plunger, panel mount cross roller, short hinge lever, hinge lever, short hinge roller lever, hinge roller lever	Pin plunger, short spring plunger, slim spring plunger, panel mount plunger, panel mount cross-roller plunger, panel mount roller plunger, leaf spring, hinge lever, hinge roller lever, short hinge lever, short hinge roller lever	Pin plunger, hinge lever, short hinge roller lever, hinge roller lever
Terminal choices	Solder, Screw	Solder, Screw, or Quick connect (#250)	Solder, Screw	Solder, Screw
Approved standards	UL, CSA, SEV	UL, CSA, SEV	UL, CSA	UL, CSA

* Values are for pin plunger type only

Switches - Snap Action

				
	TZ	D3V	V	VX
Dimensions mm (in)	32 H x 17.45 D x 49.2 W (1.26 x 0.69 x 1.93)	15.9 H x 10.3 D x 27.8 W (0.63 x 0.41 x 1.09)	15.9 H x 10.3 D x 27.8 W (0.63 x 0.41 x 1.09)	18.8 H x 10.3 D x 27.8 W (0.74 x 0.41 x 1.09)
Features	- Stable operation at 400°C ambient temperature - High contact reliability - Smooth operation	- Miniature Snap Action Switch - Environmentally friendly: free of beryllium copper & lead - Maximum operating temperature of 105°C (standard versions) - Internally or externally fitted levers 200°C versions available (D3V-T)	- Miniature Snap Action Switch - Industry standard design with 15 A (V-15G) or 10 A (V-10G) rating - Cadmium-free contacts - Internal lever options	- Miniature Snap Action - Low operating force - High contact reliability 0.1 A to 5 A
Contact Rating(s) Resistive load	1A @ 250VAC	21/16/11/6A @ 125/250VAC 0.1A @ 125VAC	15A @ 250VAC (V-15G) 10A @ 250VAC (V-10G)	5A @ 250VAC 0.1A @ 125VAC
Contact form	SPST	SPDT, SPST-NC, SPST-NO	SPDT, SPST-NC, SPST-NO	SPDT, SPST-NO, SPST-NC
Operating force (OF)*	500g	50g, 100g, or 200g	100g, 200g, or 400g (V-15G) 100g or 200g (V-10G)	25g, 50g
Mechanical service life	100,000 operations min.	10,000,000 operations min.	50,000,000 operations min.	50,000,000 (5A) 10,000,000 (0.A)
Electrical service life	50,000 operations min.	100,000 operations min. (D3V-16) 200,000 operations min. (D3V-11) 500,000 operations min. (D3V-6 / D3V-01)	100,000 operations min. (V-15G) 300,000 operations min. (V-10G)	500,000 (5A) 1,000,000 (0.1A)
Mounting pitch mm (in)	25.4 (1.0)	—	10.3 x 22.2 (0.41 x 0.87)	22.2
Actuator types	Pin plunger, hinge lever, short hinge roller lever, hinge roller lever	Pin plunger, short hinge lever, hinge lever, long hinge lever, simulated roller lever, short hinge roller lever, hinge roller lever	Pin plunger, short hinge lever, hinge lever, long hinge lever, simulated roller lever, short hinge roller lever, hinge roller lever	Pin plunger, short hinge lever, hinge lever, long hinge lever, simulated roller lever, short hinge roller lever, hinge roller lever
Terminal choices	Bolt	Solder/Quick connect (#187) Quick connect (#187) Quick connect (#250)	Solder/Quick connect (#187) Quick connect (#187), Quick connect (#250), Short solder, Screw	Solder, Quick-connect (#187)
Approved standards	—	UL, CSA, VDE, SEMKO	UL, CSA, SEV, VDE, SEMKO, DENMARK	UL, CSA, VDE

* Values are for pin plunger type only

Switches - Snap Action

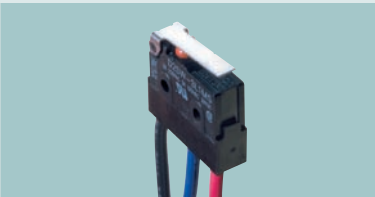
		NEW! 	NEW! 	
	SS-P/SS	SSG	D3M	D2F
Dimensions mm (in)	10.2 H x 6.4 D x 19.8 W (0.40 x 0.25 x 0.78)	10.2 H x 6.4 D x 19.8 W (0.40 x 0.25 x 0.78)	10 H x 7 D x 31.6 W (0.39 x 0.28 x 1.24)	6.5 H x 5.8 D x 12.8 W (0.26 x 0.23 x 0.50)
Features	- Subminiature Snap Action Switch - SS-01: Switches microcurrent/ microvoltage load with crossbar contacts - SS-3: Single-leaf moveable spring - SS-5: Split double spring mechanism for a long life of up to 30 million operations - SS-10: Split double spring mechanism for a long life of up to 10 million operations - Internal lever options	- Subminiature Snap Action Switch - SS-01: Switches microcurrent/ microvoltage load with crossbar contacts - SS-5: Split double spring mechanism for a long life of up to 30 million operations - Wide operating temp. range of -25 to + 125°C - Internal lever options - Global switch conforming to EN, UL & CSA	- External actuators - Easy wiring through connector terminals	- Subminiature Snap Action Switch - Switches microvoltage/ micro-current loads - Long lifespan assured by high-precision dual spring reverse-action mechanism
Contact Rating(s) Resistive load	0.1A @ 125VAC (SS-01) 3A @ 125VAC (SS-3) 5A @ 125VAC (SS-5) 10.1A @ 125/250VAC (SS-10)	3A @ 250VAC 0.1A @ 250VAC	0.1A @ 30VDC	0.1A @ 30VDC (D2F-01) 3A @ 125VAC (D2F) 1A @ 125VAC (D2F-F)
Contact form	SPDT (SPST-NC, SPST-NO per request)	SPDT, SPST-NO, SPST-NC	SPST-NC, SPST-NO	SPDT
Operating force (OF)*	25g, 50g, or 150g (SS-01) 150g (SS-3) 50g or 150g (SS-5) 150g (SS-10)	25g, 51g, 153g	153g	75g (D2F-01) 150g (D2F) 75g (D2F-F)
Mechanical service life	30,000,000 ops. min. (SS-01, SS-5)* 1,000,000 ops. min. (SS-01P, SS-3) 10,000,000 ops. min. (SS-10)*	10,000,000 operations min.	500,000 operations min.	1,000,000 operations min.
Electrical service life	200,000 operations min. (SS-01, SS-5)** 70,000 operations min. (SS-3) 50,000 operations min. (SS-10)**	200,000 operations min.	200,000 operations min.	30,000 operations min. (OT: full stroke)
Mounting pitch mm (in)	9.5 (0.37)	9.5	9.5	6.5 (0.26)
Actuator types	Pin plunger, hinge lever, simulated roller lever, formed hinge lever, hinge roller lever	Pin plunger, hinge lever, simulated roller lever, hinge roller lever	Pin plunger, hinge lever, hinge roller lever, simulated roller lever	Pin plunger, hinge lever, simulated roller lever, roller lever
Terminal choices	SS-01, SS-3, SS-5: PCB (straight, parallel left, parallel right), Solder, Quick connect SS-10: PCB (straight), Solder, Quick connect (#110)	Solder, quick-connect (#110), PCB	Dipole XA Connector	PCB (straight, self-supporting, right and left angle), Solder
Approved standards	UL, CSA, EN	UL, CSA, EN	UL, CSA	UL, CSA

*Values are for pin plunger type only

*at rated OT value

**at rated load

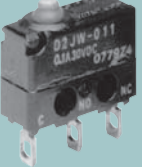
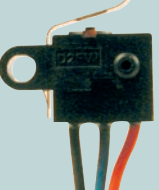
Switches - Sealed Snap Action

			
	D2VW	D2SW	D2SW-P
Dimensions mm (in)	15.9 H x 10.3 D x 33 W (0.63 x 0.41 x 1.29)	10.1 H x 6.4 D x 19.8 W (0.40 x 0.25 x 0.78)	7.7 H x 6.4 D x 19.8 W (0.30 x 0.25 x 0.78)
Features	- Miniature Snap Action Switch - Sealed water-tight switch conforms to IP67 & IP68	- Subminiature snap action switch - Small sealed switch conforms to IP67 & IP68	- Sealed basic switch (IP67) - Single leaf movable spring construction - Microload versions available
Contact Rating(s) Resistive load	0.1A @ 125VAC or 5A @ 125/250VAC	0.1A @ 125VAC or 3A @ 125VAC	2A @ 250VAC or 0.1A @ 125VAC
Contact form	SPDT (SPST-NC, SPST-NO per request)	SPDT (SPST-NC, SPST-NO per request)	SPDT, SPST-NO, SPST-NC
Operating force (OF)*	200g	180g	183g
Mechanical service life	10,000,000 operations min.	5,000,000 operations min.	1,000,000 operations min.
Electrical service life	1,000,000 operations min. (0.1A, 125VAC) 100,000 operations min. (3A, 125/250VAC)	200,000 operations min. (0.1 or 3A, 125VAC) 100,000 operations min. (2A, 250VAC)	50,000 (2 A) or 200,000 (0.1A) operations min.
Mounting pitch mm (in)	10.3 x 22.2 (0.41 x 0.87)	9.5 (0.37)	9.5mm
Actuator types	Pin plunger, short hinge lever, hinge lever, long hinge lever, simulated roller lever, short hinge roller lever, hinge roller lever	Pin plunger, hinge lever, simulated roller lever, hinge roller lever	Pin plunger, hinge lever, hinge roller lever, simulated roller lever
Terminal choices	Solder/Quick connect (#187 tab terminals) lead wires	Solder, Quick connect (#110), PCB, lead wires	Solder, Quick connect (#110), PCB (even & uneven pitch), Molded lead wires
Approved standards	UL, CSA (refer to "Ratings" section of data sheet)	UL, CSA	UL, CSA

*Values are for pin plunger type only

**IP68 Ratings are based on specific application environments and conditions, per IEC 529. Test conditions for Grade 8 pertaining to continuous immersion are subject to prior agreement between Omron and the user. Acceptance of the test requirements and the ratings may or may not occur, solely based on the specific conditions of each application. Consult Omron for consideration of specific usage conditions.

Switches - Sealed Snap Action

	NEW! 			
	D2HW	D2JW	D2FW-G	D2X
Dimensions mm (in)	7 H x 5.3 D x 13.3/18.5 W (0.28 x 0.21 x 0.52/0.73)	9.4 H x 5.3 D x 12.7 W (0.37 x 0.21 x 0.50)	13.5 H x 8.0 D x 23.5 W (0.53 x 0.31 x 0.93)	28.1 H x 8.4 D x 5.3 W (1.11 x 0.33 x 0.21)
Features	• Subminiature Snap Action Switch • Small sealed switch with long stroke for reliable ON/OFF action • Conforms to IP67	• Small size • Gold crossbar contact and coilspring for long life • IP67 rating for molded lead wire versions	• Subminiature Snap Action Switch • Small sealed switch with lead wires • Conforms to IP67	• High contact force • Wiping action for greater contact reliability
Contact Rating(s) Resistive load	2A @ 12VDC/ 1A @ 24VDC/ 0.5A @ 42VDC	0.1A @ 30VDC	0.5A @ 30VDC or 50mA @ 30VDC	0.1A @ 30VDC
Contact form	SPDT, SPST-NC, SPST-NO	SPDT	SPDT, SPST-NC, SPST-NO	SPST-NC
Operating force (OF)*	76g	250g	120g	50g
Mechanical service life	1,000,000 operations min.	1,000,000 operations min.	300,000 operations min.	1,000,000 operations min.
Electrical service life	100,000 operations min.	500,000 operations min.	100,000 operations min.	50,000 operations min.
Mounting pitch mm (in)	8 (0.32) posts, 13 (0.51) screw	4.8	16 (0.63)	12.2
Actuator types	Pin plunger, hinge lever, long hinge lever, simulated roller lever, leaf lever, simulated leaf lever, long leaf lever	Pin plunger, short hinge lever, hinge lever, simulated roller lever, hinge roller lever	Leaf lever, Long leaf lever	Bi-directional paddle
Terminal choices	PCB (straight, angled), Solder, Lead wire (bottom, right side, left side)	Solder, molded lead wire	Lead wires	Crimp connector
Approved standards	UL, CSA	UL, CSA, VDE	—	—

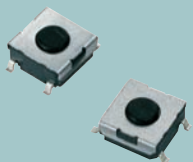
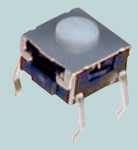
*Values are for pin plunger type only

Switches - Snap Action

		NEW! 	
	D3C	D3D	D2T
Dimensions mm (in)	6 H x 4.2 D x 8 W (0.24 x 0.17 x 0.31)	30.7 H x 15 D x 36.4 W (1.21 x 0.59 x 1.43)	24.65 H x 11.5 D x 28.8 W (0.97 x 0.45 x 1.13)
Features	• Low torque built-in slide mechanism for selecting shorting or non-shorting timing	• Miniature door switch • Low-noise • Disconnectable crimp connector • Gold crossbar contacts	• Compact door switch • Incorporates two circuits for power loads & micro loads
Contact Rating(s) Resistive load	0.1A @ 30VDC	1A @ 125VAC or 0.5A @ 250VAC	5A @ 250VAC 0.1A @ 25VAC
Contact form	SPDT	SPDT, SPST-NC, SPST-NO	DPST-NO
Operating force (OF)*	40g, 130g	204g	330g
Mechanical service life	50,000 operations min.	300,000 operations min.	100,000 operations min.
Electrical service life	50,000 operations min.	100,000 operations min.	100,000 operations min.
Mounting pitch mm (in)	5.7	Panel-mount	26.4
Actuator types	Rotary lever	Pin plunger, lever	Pin plunger, hinge lever
Terminal choices	PCB	Connector	Solder
Approved standards	—	UL, CSA	UL, CSA, VDE, SEMKO

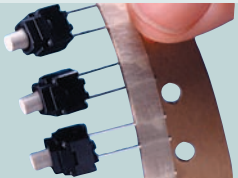
* Values are for pin plunger type only

Switches - Tactile

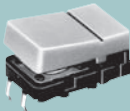
				
	B3F	B3FS	B3W	B3W-9
Dimensions mm (in)	Varies by type	Varies by type	Varies by type	11 H x 10 W x 10 D (0.43 x 0.39 x 0.39)
Features	- Tactile 6 mm/12 mm Square Switch - Space saving switch with extended mechanical/electrical service life - Taped radial packaging available*	- Tape & Reel Surface Mount Switches - Tactile switch that incorporates a snap action contact mechanism which ensures sharp switching operations	6 mm/12 mm Square Tactile Switch - Sealed Construction allows immersion cleaning with Alcohol based solution	- Bright, Uniform illumination in SPST-NO (momentary) configuration - Keycap option includes LED color match, transparent or opaque white - Monocolor illumination, with 1 or 2 LED's - Tricolor operation possible - - Red + Green LED's produce Orange when used with white cap - Dust tight internal switch mechanism
Service life (Mechanical/Electrical)	B3F-1 □□□ /3 □□□ 1,000,000 operations min. (High force: 300,000 operations min.) B3F-4 □□□ 3,000,000 operations min. (High force: 300,000 operations min.) B3F-5 □□□ 10,000,000 operations min.) B3F-6 □□□ 1,000,000 operations min. (High force: 300,000 operations min.)	1,000,000 operations min. (General purpose) 300,000 operations min. (High force)	B3W-1 □□□ Standard force: 1,000,000 operations min. High-force: 300,000 operations min. B3W-4 □□□ Standard force: 3,000,000 operations min. High force: 1,000,000 operations min.	1,000,000 operations min. (Standard force) 300,000 operations min. (High force)
Contact Rating(s)				
Resistive load	50mA @ 24 VDC	50mA @ 24 VDC	50mA @ 24VDC	1 to 50 mA @ 5 to 24 VDC
Contact form	SPST-NO	SPST-NO	SPST-NO	SPST-NO
Action	Momentary	Momentary	Momentary	Momentary
Ground terminal	Models available with or without ground terminal	None	Models available with or without ground terminal	None
Keycap (optional)	Refer to "ACCESSORIES" section of data sheet for Keycap information	None	Refer to "ACCESSORIES" section of data sheet for Keycap information	Transparent, Translucent White or Color Matched
Operating force (OF)	Refer to "OPERATING CHARACTERISTICS" section of data sheet	100gf (General purpose) 150gf (High force)	Refer to "OPERATING CHARACTERISTICS" section of datasheet	160 gf max. (Standard force) 230 gf max. (High force)
Actuator type	Plunger	Plunger	Plunger	Integral keycap ith unique diffusion panel
Terminal choices	PCB	Surface mount	PCB	PCB
Cleaning	Not possible	Not possible	Possible	Not Possible

NOTE: (1) None of the Tactile switch models listed within this catalog are water-washable.
 (2) B32 Keytops are available for projected plunger versions of the B3F, B3FS and B3W.
 See datasheet, available at <http://www.components.omron.com>

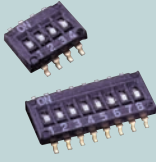
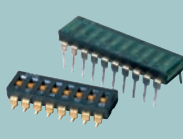
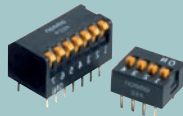
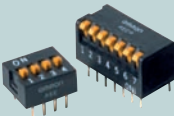
Switches - Tactile

				
	B3WN	B3S	B3SL	B3SN
Dimensions mm (in)	13 H x 8.0 D x 8.0 W (0.51 x 0.31 x 0.31)	4.3 H x 6.0 D x 6.0 W (0.17 x 0.24 x 0.24)	3.4 H or 5.1H x 6.2 W x 6.5 D (0.13 or 0.20 x 0.24 x 0.26)	3.1 H x 6.5 D x 7.0 W (0.12 x 0.26 x 0.28)
Features	- Radial Tape Sealed Tactile Switch - Compact 8 x 8 mm square size with double sealing construction - Assures water-tight/ dust-tight protection	- Surface Mount Tactile Switch - Sealed Construction allows immersion cleaning with Alcohol based solution	90°C Maximum operating Temperature - Sealed construction conforming to IP64 (IEC 60529) - Crisp click feeling and middle stroke with rubber plunger. - Two heights available, 3.4 mm and 5.1 mm - Tape packing is available	- Surface Mount Tactile Switch - Low profile sealed construction for dust or humid environments - Available in bulk or tape packaging
Service life (Mechanical/Electrical)	100,000 operations min.	500,000 operations min. (General purpose) 300,000 operations min. (High force)	100,000 operations min.	50,000 operations min.
Contact Rating(s)				
Resistive load	50mA @ 12VDC	50mA @ 24VDC	1 to 50 mA @ 5 to 12 VDC	1 to 30mA @ 5 to 24VDC
Contact form	SPST-NO	SPST-NO	SPST-NO	SPST-NO
Action	Momentary	Momentary	Momentary	Momentary
Ground terminal	None	Models available with or without ground terminal	None	Models available with or without ground terminal
Keycap (Optional)	None	None	None	None
Operating force (OF)	200 ±70gf	160gf (General purpose) 230gf (High force)	200 ± 50 gf	160 ±50g max.
Actuator type	Plunger	Plunger	Plunger	Plunger
Terminal choices	PCB	Surface mount	Surface Mount	Surface mount
Cleaning	Possible	Possible	Not Possible	Possible

Switches - Tactile

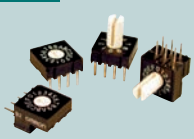
				
	B3M	B3J	B3D	B3DA
Dimensions mm (in)	7.3 H x 6.0 D x 6.0 W (0.29 x 0.24 x 0.24)	10.3 H x 18.0 D x 12.0 W (0.41 x 0.71 x 0.47)	4 mm or 5 mm domes	4 mm or 5 mm domes
Features	• High Profile Tactile Switch • Stroke length of 0.85mm • Light touch with a minimum overstroke of 0.25mm	• Hinged Tactile Switch • Available with 1, 2 or no LED's	• Adhesive-backed individual dome • Superior dust-tight performance • No soldering required	• Adhesive-backed individual array • Superior dust-tight performance • No soldering required
Service life (Mechanical/Electrical)	2,000,000 operations min.	3,000,000 operations min.	500,000 (4 mm) / 1,000,000 (5 mm)	500,000 (4 mm) / 1,000,000 (5 mm)
Contact Rating(s)				
Resistive load	50mA @ 12VDC	1 to 50mA @ 5 to 24VDC	10mA @ 12VDC	—
Contact form	SPST-NO	SPST-NO	N/A	N/A
Action	Momentary	Momentary	Momentary	Momentary
Ground terminal	None	None	None	None
Keycap (Optional)	Built in	None	None	None
Operating force (OF)	70 ±20gf	130 ±50gf	170g	160g
Actuator type	Plunger	Hinge lever	Dome	Dome
Terminal choices	PCB	PCB	Surface mount	Surface mount
Cleaning	Not possible	Not possible	Not possible	Not possible

Switches - DIP

					
	A6H	A6T/A6S-H	A6TR/A6SR	A6D/A6DR	A6E/A6ER
Dimensions mm (in)	Varies by type	Varies by type	Varies by type	Varies by type	Varies by type
Features	- Half-pitch Surface Mount DIP Switch - Low profile of 1.55mm - Seal tape models available	- Straight PCB/ Surface Mount DIP Switch - Flat actuated types with or without seal tape, & tape seal versions in embossed tape packaging - Raised actuator types also available	- Piano DIP versions of the popular A6T and A6S-H - Low profile, end stackable design - Gold-plated twin contacts and slide-type self cleaning contact mechanism - Surface Mount or Through-hole PCB terminals	- Dustproof construction - Top, raised & side actuators - Smooth switching action	Available in a variety of model types: A6E: Flat/Raised actuator A6ER: Side actuator
Contact Rating(s) Resistive load	25mA @ 24VDC	25mA @ 24VDC	25 mA @ 25 VDC	30mA @ 30VDC	25mA @ 24VDC
Switching positions	—	—	—	—	—
Number of poles	4, 8	A6T: 1, 2, 4, 6, 8, 10 A6S: 2, 3, 4, 5, 6, 7, 8, 9, 10 A6S (embossed tape): 4, 6, 8	2, 4, 6, 8, 10	4, 6, 8, 10	2, 3, 4, 5, 6, 7, 8, 9, 10
Operating force (OF)*	30gf	30gf	30.5 to 795 gf	500gf	30gf
Mechanical service life,	1,000 operations min.	1,000 operations min.	1,000 operations min.	5,000 operations min.	1,000 operations min.
Electrical service life	1,000 operations min.	1,000 operations min.	1,000 operations min.	2,000 operations min.	1,000 operations min.
Actuator types	Top	Top, raised	Side (piano style) – short or long lever	Top, raised, side	Top, raised, side
Terminal choices	Surface mount	PCB terminal; Surface mount	PCB - Through-hole or Surface mount	PCB terminal	PCB terminal
Washable	Yes (seal tape only)	Yes (seal tape only)	No	Yes	No

Switches - DIP

NEW!



NEW!



	A6R/A6RV	A6RS	A6A	A6C
Dimensions mm (in)	Varies by type	Varies by type	Varies by type	Varies by type
Features	- Economical rotary DIP switch - Top, side & extended shaft models - O-ring sealed construction to prevent ingress of dust and dirt	- Temperature-resistant resin allows peak reflow of 260°C - Flat and extended-shaft models - Two different terminal arrangements for maximum design flexibility -25 °C to 80 °C operating temperature	- Subminiature Rotary DIP Switch - Small housing for high-density mounting & sealed construction for immersion cleaning	Subminiature Rotary DIP Switch Internal sealed construction eliminates the need for tape sealing, & automatic, high-density mounting is possible
Contact Rating(s) Resistive load	25mA @ 24VDC	25 mA @ 24 VDC	1~100mA @ 5~28VDC	100mA @ 30VDC
Switching positions	10-BCD 16-Hexidecimal	10-BCD 16-Hexidecimal	10-BCD 16-Hexadecimal	10-BCD 16-Hexidecimal
Number of poles	—	—	—	—
Operating force (OF)*	200g-cm max.	1.96×10^{-2} N-m max. operating torque	120 to 250g-cm	15 to 100g-cm
Mechanical service life	5,000 detent operations min.	—	10,000 detent operations min.	10,000 operations min.
Electrical service life	5,000 detent operations min.	5,000 detent operations min.	2,000 detent operations min.	2,000 operations min.
Actuator types	Rotary	Rotary	Rotary	Rotary
Terminal choices	PCB terminal	Surface mount	PCB terminal	PCB terminal
Washable	No	No	Yes	Yes

Connectors - Industrial

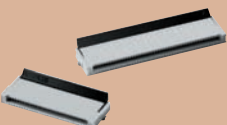
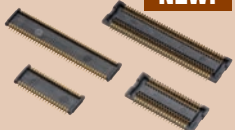
General Attributes	Sensor I/O Cables			PCB
	 NEW!			 NEW!
	XS5	XS2	XS3	XN2
Connector Type	M12 Sensor I/O Connector (Bayonet Locking Mechanism)	M12 Sensor I/O Connector	M8 Sensor I/O Connector	Sensor I/O Connector (Easy-wire connection)
Available Models	- Standard cables - Vibration-Proof Robot Cables - Oil-Resistant Polyurethane Cables - CL3 Cables	- Standard Cables - Vibration-Proof Robot Cables - PVC Cables - PUR Cable	- Standard Cables - Vibration-Proof Robot Cables	- Cable Plug, Cable Socket, - Single-Socket, Four Socket
Cable Length	1 to 20m (depending on specific p/n)	1 to 20m (depending on specific p/n)	1 to 5m (depending on specific p/n)	N/A
Rated Current	4.0 Amps	3.0 Amps	1.0 Amp	3 amps/pole (0.5m ² wire) 2 amps/pole (0.3m ² wire) 1 amps/pole (0.2m ² wire) 0.5 amps/pole (0.1m ² wire)
Rated Voltage	250VDC	125VDC, 250VAC	125VDC	32VDC
Contact Resistance	40mΩ max.	40mΩ max.	40mΩ max.	30mΩ max.
Dielectric Strength	1,500VAC, 1 min.	1,500VAC, 1 min.	1,000VAC, 1 min.	1,000VAC, 1 min.
Insertion tolerance	50 times	200 times	200 times	50 times
Ambient Temperature Range	-25 to 70°C	-25 to 70°C	-25 to 70°C	-30 to 75°C
Degree of Protection	IP67 (IEC60529)	IP67 (IEC60529)	IP67 (IEC60529)	N/A
Features	- Waterproof - Smartclick: Twist-Click connection with approximately 1/8th of a turn. - Au audible "Click" and tactile response - Interchangeable with standard screw type M12 connector	- Waterproof - Screw type - Wide range of product variation - IP69K version is also available	- Waterproof - Screw type	- Easy connection - Easy repair - Accepts any size wire from AWG28 to AWG22

Connectors - FPC (Flexible Printed Circuit)

FPC Connectors

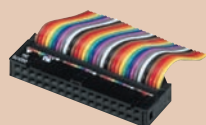
	NEW! 	NEW! 	NEW! 		POPULAR 
	XF3C	XF3B	XF3H	XF2B	XF2M
Pitch mm	0.25mm	0.3mm	0.3mm	0.3mm	0.5mm
Insertion type	ZIF	ZIF	ZIF	ZIF	ZIF
Cable lock type	Rotary Backlock	Rotary Backlock	Rotary Frontlock	Rotary Backlock	Rotary Backlock
Plating on contacts	Gold plating	Gold plating	Gold plating	Gold plating	Gold plating
PCB mounting	SMT	SMT	SMT	SMT	SMT
Cable insertion	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Contact type(s)	Dual Contact	Dual Contact	Lower Contact	Dual Contact	Dual Contact
Dimensions mm (in)	10.5W x 3.8D x 0.85H (0.41 x 0.15 X 0.033) for 35 circuits	12.4W x 4.0D x 0.9H (0.49 X 0.16 X 0.035) for 35 circuits	12.0W x 3.5D x 0.9H (0.47 X 0.14 X 0.035) for 35 circuits	12.4W x 5.5D x 1.2H (0.49 x 0.22 X 0.047) for 35 circuits	16.1W x 5.9D x 2.0H (0.63 x 0.23 x 0.079) for 24 circuits
Available circuits	17,35,51	35,67	13,25,31,35,39,45, 51,57,61	17,21,23,25,27,31,33, 35,39,41,45,51,61	10,12,14,18,20,22,24, 26,30,32,33,34,35,36,38, 40,42,45,50,55,60
Packaging	Tape & reel	Tape & reel	Tape & reel	Tape & reel	Tape & reel
Applicable FPC Thickness	0.12mm	0.2mm	0.2mm	0.2mm	0.3mm
Features	• Ultra Fine Pitch 2.5mm • Realized Dual contact with 0.85mm height	• Fine pitch : 0.3mm • Realized Dual contact with 0.9mm height	• Fine pitch : 0.3mm • Ultra slim body : 3.5mm depth	• Fine pitch : 0.3mm • Realized Dual contact with 0.9mm height	• High reliability Rotary Backlock • Wide range of circuits available
Specifications					
Rated current	0.2A	0.2A	0.2A	0.2A	0.5A
Rated voltage	50V	50V	50V	50VDC	50VDC
Contact resistance (@ 20mV, 100mA)	80mΩ max.	80mΩ max.	80mΩ max.	50mΩ max.	50mΩ max.
Insulation resistance (min.)	100MΩ @ 250VDC	100MΩ @ 250VDC	100MΩ @ 250VDC	100MΩ @ 250VDC	100MΩ @ 250VDC
Withstand voltage (leakage current: 1mA max.)	250VAC, 1min.	250VAC, 1min.	250VAC, 1min.	250VAC, 1min.	250VAC, 1min.
Insertion tolerance	20 times	20 times	20 times	20 times	20 times
Ambient operating temperature	-30°C to +85°C	-30°C to +85°C	-30°C to +85°C	-30°C to +85°C	-30°C to +85°C

Connectors - FPC (Flexible Printed Circuit)

	FPC Connectors				Board to Board
					 NEW!
	XF2W	XF2U	XF2L	XF2J	XB4A(Plug) XB4B (Socket)
Pitch mm	0.5mm	0.5mm	0.5mm	0.5mm	0.4mm
Insertion type	ZIF	ZIF	ZIF	ZIF	—
Cable lock type	Rotary Backlock	Rotary Backlock	Slide Lock	Slide Lock	—
Plating on contacts	Gold plating	Gold plating	Gold plating	Gold plating	Gold plating
PCB mounting	SMT	SMT	SMT	SMT	SMT
Cable insertion	Horizontal	Horizontal	Horizontal	Vertical	—
Contact type(s)	Dual Contact	Dual Contact	Upper / Lower Contact	Single-sided contact	—
Dimensions mm (in)	14.0W x 3.5D x 1.1H (0.55 x 0.14 x 0.043) for 24 circuits	14.0W x 3.5D x 0.9H (0.55 x 0.14 x 0.035) for 24 circuits	19.9W x 3.45D x 1.2H (0.78 x 0.14 x 0.047) for 30 circuits	19.5W x 3.4D x 4.15H (0.77 x 0.13 x 0.16) for 30 circuits	7.2W x 5.0D x 0.9H (0.28 x 0.20 x 0.035) for 24 circuits
Available circuits	5,7,8,9,16,20,24,45,50, 55,64	4,8,11,14,18,20,24,27, 30,32,40	4,5,6,7,8,9,10,12,13, 15,18,19,20,21,22,24, 26,30	6,8,10,12,14,16,18,20, 22,24,26,28,30,40	24,40,80
Packaging	Tape & reel	Tape & reel	Tape & reel	Tape & reel	Tape & reel
Applicable FPC Thickness	0.3mm	0.2mm	0.3mm	0.3mm	—
Features	- Long slider also available for easy operation. - Ultra slim body: 3.5mm depth	- Ultra slim body with low profile: 3.5 mm depth - Realized dual contact with 0.9mm height	Ultra slim body : 3.45mm depth	- Low profile, Top-entry - Reverse terminal arrangement also available	- Ultra Low Profile (Stacking height : 0.9mm) - Provide positive click sound
Specifications					
Rated current	0.5A	0.5A	0.5A	0.5A	0.3A
Rated voltage	50V	50V	50VDC	50V	50V
Contact resistance (@ 20mV, 100mA)	60mΩ max.	60mΩ max.	30mΩ max.	30mΩ max.	60mΩ max.
Insulation resistance (min.)	100MΩ @ 250VDC	100MΩ @ 250VDC	100MΩ @ 250VDC	100MΩ @ 250VDC	100MΩ @ 250VDC
Withstand voltage (leakage current: 1mA max.)	250VAC, 1min.	250VAC, 1min.	250VAC, 1min.	250VAC, 1min.	250VAC, 1min.
Insertion tolerance	20 times	20 times	20 times	30 times	50 times
Ambient operating temperature	-30°C to +85°C	-30°C to +85°C	-30°C to + 85°C	-30°C to +85°C	-30°C to +85°C

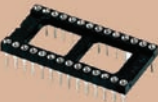
Connectors - PCB

Ribbon Cable



	XG4M	XG4U	XG4A	XG4E	XG4C
Description	MIL connector	MIL Connector, Accessory	MIL connector	MIL connector	MIL connector
Pitch mm	2.54	—	2.54	2.54	2.54
Socket / Plug	Socket	Strain relief	Plug with lock	Relay Plug with Locks	Box plug
Plating on contacts	Gold plating	—	Gold plating	Gold plating	Gold plating
PCB mounting	Thru-hole	—	Thru-hole	Thru-hole	Thru-hole
Connect type	IDC	—	IDC	IDC	IDC
Cable type	Flat ribbon cable	—	Flat ribbon cable	Flat ribbon cable	Flat ribbon cable
Dimensions mm (in)	Please consult product specifications for more information	Please consult product specifications for more information	Please consult product specifications for more information	Please consult product specifications for more information	Please consult product specifications for more information
Available circuits	10, 14, 16, 20, 26, 30, 34, 40, 50, 60, 64	10, 14, 16, 20, 26, 30, 34, 40, 50, 60, 64	10, 14, 16, 20, 26, 30, 34, 40, 50, 60, 64	10, 14, 16, 20, 26, 30, 34, 40, 50, 60, 64	10, 14, 16, 20, 26, 30, 34, 40, 50, 60, 64
Packaging	Tray	Bag	Tray	Tray	Tray
Features	• Unique locking mechanism on socket with XG4U (Strain Relief) • Easy lock lever available • Save space	• Unique locking mechanism : Strain Relief with Locks for XG4M (Socket). • Easy connect/ Disconnect with one hand • Save space	• Both long lock and short lock available • 2-tier plugs available • Straight and Right angle terminal available	• Both long lock and short lock available • Straight and Right angle terminal available	• Straight and Right angle terminal available
Specifications					
Rated current	1A	—	3A	1A	3A
Rated voltage	250VAC	—	300VAC	250VAC	300VAC
Contact resistance (@20mV, 100mA)	20mΩ max.	—	20mΩ max.	20mΩ max.	20mΩ max.
Insulation resistance (min)	100MΩ @ 500VDC	—	100MΩ @ 500VDC	1000MΩ @ 500VDC	100MΩ @ 500VDC
Withstand voltage (leakage current: 1mA max.)	500VAC, 1 min.	—	500VAC, 1 min.	500VAC, 1 min.	500VAC, 1 min.
Insertion tolerance	50 times	—	50 times	50 times	50 times
Ambient operating temperature	-55°C to +105°C	-55°C to +105°C	-55°C to +105°C	-55°C to +105°C	-55°C to +105°C

Connectors - PCB

	Discrete Wire	Board to Board		IC Socket	
					
General Attributes	XG5	XC5	XH3	XH4	XR2
Description	MIL connector	DIN Connector	Half-Pitch Connector	Half-Pitch Low Profile Connector	IC Sockets
Pitch mm	2.54	2.54	1.27	1.27	2.54
Socket/Plug	Socket	Socket, Plug	Socket, Plug	—	IC Sockets
Plating on contacts	Gold plating	Gold plating	Gold/Palladium plating	Gold plating	Gold plating/Gold flash plating
PCB Mounting	Thru-hole	Thru-hole	Thru-hole	Thru-hole, SMT	Thru-hole
Connect Type	IDC	—	—	—	—
Cable type	Discrete-Wire	—	—	—	—
Dimensions mm (in)	Please consult product specifications for more information.	Please consult product specifications for more information.	Please consult product specifications for more information.	Please consult product specifications for more information.	Please consult product specifications for more information.
Available circuits	10,14,16,20,26,30,34, 40,50,60,64	20,32,44,50,64,100	20,30,40,50,60,68, 80,100,120	40,50,60,80&100	8,14,16,18,20,22,24,28,3 2,40,42,48,50, 64
packaging	Tray	Tray	Tray	Tray	Tray / Tube
Features	- Wiring performed with simple IDC tool - Semi-cover/Hood cover is available	- DIN Twin Contact Connectors - Wide product range, Double-Row: B-type & Q-type, Triple Row: C-type & R-type	- Adjustable Stacking height of 12mm to 20mm - Screw mount eliminated to save space	- Adjustable Stacking height of 5mm to 11mm (for Low Profile) - Integrated male (plug) and female (socket) connector	- Ideal for high-speed data processing - A wide product range
Specifications					
Rated current	3A	2A	0.5A	0.5A	1A
Rated voltage	300VAC	300VAC	125VAC	125VAC	300VAC
Contact resistance (@20mV, 100mA)	20mΩ max.	20mΩ max.	30mΩ max.	30mΩ max.	20mΩ max.
Insulation resistance (min.)	1000 MΩ @ 500VDC	10 ⁶ MΩ @ 100VDC	1000 MΩ @ 500VDC	1000 MΩ @ 500VDC	1000 MΩ @ 500VDC
Withstand Voltage (leakage current: 1mA max.)	650VAC, 1min.	1,000VAC, 1min.	650VAC, 1min.	650VAC, 1min.	1,000VAC, 1min.
Insertion tolerance	50 times	200 times	400 times	50 times	100 times for 0.75um-gold plating, 50 times for 0.25um-gold plating. 20 times for gold flash plating
Ambient operating temperature	-55°C to +85°C	-55°C to +125°C	-55°C to +105°C	-55°C to +105°C	-55°C to +125°C

Sensors - MEMS In-Line Mass Flow

Air/Gas Applications Include: Medical Devices • Fuel Cells • Lab Equipment • Welding Equipment

				
	Ultra-Compact Size		Aluminum Alloy Body	
Part Number	D6F-01A/02A	D6F-03A	D6F-01N/02L/05N	D6F-10/20/50
Dimensions mm (in)	15 H x 20 D x 66 L (0.60 x 0.79 x 2.60)	16.8 H x 8 D x 36.6 L (0.66 x 0.32 x 1.44)	22 H x 22 D x 62 L (0.87 x 0.87 x 2.4)	30 H x 30 D x 78 L (1.18 x 1.18 x 3.07)
Features	- Excellent low flow resolution down to 0.01% full scale range - Precision unidirectional mass airflow up to 2 LPM - Stable output - Low power consumption - High accuracy and repeatability	- Precision unidirectional mass airflow up to 3 LPM - Fast Response, (<5 msec typical, for reference only) - Low power consumption - High accuracy and repeatability - Perfect for tight space requirements such as pick & place equipment	- Precision unidirectional mass airflow up to 5 LPM - Stable output - Low power consumption - High accuracy and repeatability - Aluminum Alloy Body	- Precision unidirectional mass airflow up to 50LPM - Stable output - Alternate manifold mount with NBR 'O'ring (A5 version) - Low power consumption - High accuracy and repeatability
Applicable gases	Air*	Air*	Natural gas, Propane gas*	Air*
Supply voltage	10.8 to 26.4VDC	10.8 to 26.4VDC	10.8 to 26.4DC	10.8 to 26.4VDC
Output voltage	1 to 5VDC	1 to 5VDC	1 to 5VDC	1 to 5VDC
Operating temp.range	-10°C to +60°C	0°C to +50°C	-10°C to +60°C	-10°C to +60°C
Ordering information				
Part number	D6F-01A-110	D6F-03A3-000	D6F-01N2-000	D6F-10A6-000
Cal. Gas	Air	Air	Natural gas	Air
Flow range	0-1LPM	0-3LPM	0-1LPM	0-10LPM
Port size	Barbed fitting, 5/16" ID Tube	M5	1/4" BSPT	1/4" BSPT
Part number	D6F-02A1-110		D6F-02L2-000	D6F-20A6-000
Cal. Gas	Air		Propane	Air
Flow range	0-2LPM		0-2LPM	0-20LPM
Port size	Barbed fitting, 5/16" ID Tube		1/4" BSPT	1/4" BSPT
Part number			D6F-05N2-000	D6F-50A6-000
Cal. Gas			Natural Gas	Air
Flow range			0-5LPM	0-50LPM
Port size			1/4" BSPT	1/4" BSPT
Part number				D6F-10A61-000
Cal. Gas				Air
Flow range				0-10LPM
Port size				1/8-27 NPT
Part number				D6F-20A61-000
Cal. Gas				Air
Flow range				0-20LPM
Port size				1/8-27 NPT
Part number				D6F-50A61-000
Cal. Gas				Air
Flow range				0-50LPM
Port size				1/8-27 NPT

*Contact Omron for other calibration gases. Omron mass flow sensors are compatible with a wide variety of noncorrosive gases including nitrogen, oxygen, carbon dioxide, argon, heliox, nitrogen oxides.

For Additional Information Call 847.882.2288 • email:components@omron.com
visit www.components.omron.com

Sensors - MEMS Mass Flow & Velocity

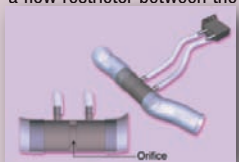
With Integrated Dust Segregation System

MEMS Mass Flow Sensors



MEMS Air Velocity Sensors



Part Number	D6F-P	D6F-W	D6F-V
Dimensions mm (in)	27.2H x 17.2D x 35W (1.07 x 0.68 x 1.38)	9H x 20Dx 39L (0.35 x 0.79 x 1.53)	14H x 8D x 24L (0.55 x 0.32 x 0.94)
Features	**The Advantages Of A Bypass Set-up The D6F-P mass flow sensor when applied in a bypass set-up can measure flow rates way beyond its 1LPM in-line rating. The pressure differential required to pull airflow through the sensor can be accomplished by installing a flow restrictor between the two 		
Applicable gases	Air*	Air*	Air*
Supply voltage	4.75 to 9.45VDC	10.8 to 26.4VDC	3.15 to 9.45VDC
Output voltage	0.5 to 2.5VDC	1-5VDC	0.5 to 2VDC
Operating temp.range	-10°C to +60°C	-10°C to +60°C	-10°C to +60°C
Ordering information			
Part number	D6F-P0010A1	D6F-W01A1	D6F-V03A1
Cal. Gas	Air	Air	Air
Flow range	0-1 LPM	0-1m/sec	0-3m/sec
Terminal type	PCB Terminals		
Part number	D6F-P0010A2	D6F-W04A1	
Cal. Gas	Air	Air	
Flow range	0-1 LPM	0-4m/sec	
Terminal type	Plug-In Connector		

Air Velocity Sensors Applications Include:

HVAC velocity measurement, Clogged filter detection on A/V equipment, computers, and a variety of other equipment, Clean room / laboratory hood velocity monitoring

The Dust Segregation System (DSS)

All of the products on this page incorporate a DSS in their internal flow path design. It creates centrifugal forces pulling particulate matter thru a separate flow path away from the sensing element. By keeping the element clean a longer more dependable life is realized for the sensor.



*Contact Omron for other calibration gases. Omron mass flow sensors are compatible with a wide variety of noncorrosive gases including nitrogen, oxygen, carbon dioxide, argon, heliox, nitrogen oxides.

For Additional Information Call 847.882.2288 • email:components@omron.com
visit www.components.omron.com

Sensors - Vibration/Tilt

Micro Tilt Sensor

Applications:

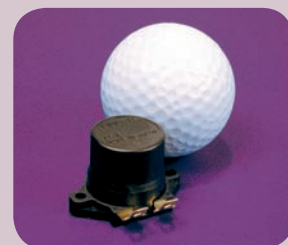
Perfect Solution for hand-held devices, Digital Cameras & Picture Frames, Cell Phones, MP3 devices & PDA's.



D6BN

Dimensions mm (in)	2 H x 7 D x 7 W (0.08 x 0.28 x 0.28)
Features	- Utilizes Hall Effect technology - Low profile - Surface mount - No EMC bounce - Economical - requiring only 2 micro processor ports and no additional circuitry
Operating angle	40 – 80° (left to right)
Return angle	50 – 10° (left to right)
Operating voltage (Vdd)	2.4 to 3.6 VDC
Output voltage	
Low	0.4VDC max.
High	0.4VDC min.
Current consumption	10 µA max.
Operating temp. range	-10°C to +60°C
Ordering information	D6BN-1P (2500 pc tape and reel)

Vibration/Tilt Sensors



D7E

Dimensions mm (in)	23.1 H x 23.6 D x 36.4 W (0.91 x 0.93 x 1.43)
Features	- Pure Mechanical Detector - Self Resetting - Quick Connect Terminals - Great option for space heaters or other tilt-sensitive equipment
Contact capacity	0.1mA at 5VDC to 100mA at 30VDC
Contact form	SPST-NC
Operating temp. range	-25° to +60°C
Service life	5000 operations min.
Ordering information	
Part number Vibration	D7E-1 130 to 200 gal Seismic Intensity
Part number Vibration	D7E-2 100 to 170 gal Seismic Intensity
Part number Tilt	D7E-3 Operating Angle 50 to 80° Return Angle 25° or greater

Non-Invasive Blood Pressure (NIBP)



Module P/N M3600

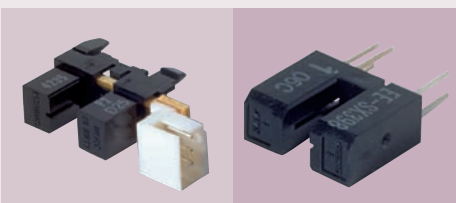
Omron's Self contained Non-invasive Blood Pressure (NiBP) module combines the hardware and software necessary to perform complete blood pressure measurements utilizing a non-invasive oscillometric method. The module includes our proprietary Smart Inflation™ and Dynamic Linear Deflation for added comfort and speed.

Features:

- Adult/Pediatric/Neonatal
- Pulse Rates: 40 to 240bpm
- Pulse Rate Accuracy: ±2bpm or 2% reading
- Blood Pressure complies with ANSI/AAMI SP10:2002
- Power Supply: 12VDC @ 680mA, 2.0A inrush current
- Dimensions (in): 2.36 x 1.57 x 3.78
- Weight: 0.44 lbs.

Sensors - Photomicrosensors

Photo IC - Slotted



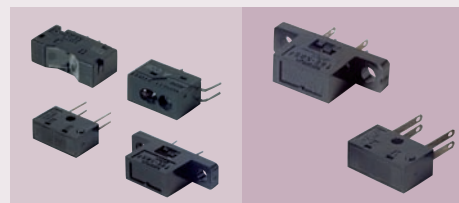
Non-Amplified

Non-Amplified

Sub-category	Slotted Photo IC with connector	Slotted Photo IC
Models	EE-SX4235A-P2	EE-SX398, EE-SX3070, EE-SX3081, EE-SX3088, EE-SX498, EE-SX4070, EE-SX4081, EE-SX4088
Connection type	Connector*	PCB mount
Features	- Unique snap-in mounting mechanism eliminates screws & nuts - Compatible with 1.0, 1.2, & 1.6 mm PCBs	- Built-in Schmitt trigger circuit - Directly compatible with TTL and CMOS
Slot width mm (in)	5 (0.2)	3 to 8 (0.12 to 0.315)
Output logic	Light-ON	Light-ON or Dark-ON
Max. forward current mA	—	50mA
Supply voltage (VDC)	7VDC	4.5 to 16VDC
Operating temperature	-25° to +75°C	-40° to +75°C
Output low voltage (V)	0.35V max.	0.4V max.
Output high voltage (V)	(Vcc x 0.9) Vmin.	15V min.
Response frequency (Hz)	3,000Hz	3,000Hz
Output permissible dissipation (mW)	250mW	250mW
Forward voltage (V)	—	1.2V – typ.
Hysteresis	—	15%
Rising time (low to high)	—	3μS – typ.
Falling time (high to low)	—	20μS – typ.
Current consumption (mA)	30mA max.	10mA max.

*Applicable Mating Connector
AMP 175778-3
AMP 173977-3

Phototransistor - Reflective



Non-Amplified

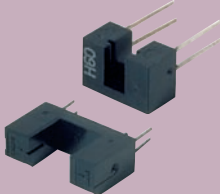
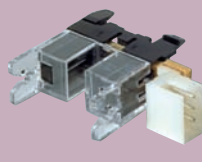
Non-Amplified

Sub-category	Reflective PCB mount phototransistor	Reflective solder terminal phototransistor
Model numbers	EE-SY169, EE-SY169A, EE-SY169B, EE-SB5-B, EE-SF5-B	EE-SB5, EE-SF5
Connection type	PCB mount	Solder terminals
Features	- Ideal for office automation and computer peripheral equipment - Infrared LED & photo-transistor assure long life	- Sensor housing reduces external light's influence - High resolution sensing
Sensing distance mm (in)	5 (0.2)	5 (0.2)
Max. forward current (mA)	50mA (40 mA: EE-SY169, EE-SY169B)	50mA
Supply voltage (VDC)	5 to 30V	5 to 30V
Light current (mA)	EE-SY169(A)(B): 160μA to 2,000μA; EE-SB5/EE-SF5-B: 200μA to 2,000μA	200μA to 2,000μA
Response frequency (Hz)	15kHz	15kHz
Ambient operating temperature (°C)	0° to +70°C	-25° to +85°C

NOTE: The above specifications do not apply to all models listed.
For specific model information and additional product variations,
visit www.components.omron.com or contact your local Omron representative.

Sensors - Photomicrosensors

Phototransistors - Slotted

				
	Non-Amplified	Non-Amplified	Non-Amplified	Non-Amplified
Sub-category	Slotted phototransistor with connector	Miniature PCB mount transmissive	Slotted surface mount phototransistor output	Slotted actuator adaptable phototransistor output
Models	EE-SX1235A-P2	EE-SX198, EE-SX1018, EE-SX1035, EE-SX1041, EE-SX1042, EE-SX1046, EE-SX1055, EE-SX1070, EE-SX1071, EE-SX1081, EE-SX1088, EE-SX1096, EE-SX1103, EE-SX1105, EE-SX1106	EE-SX1107, EE-SX1108, EE-SX1109, EE-SX1131 (dual channel)	EE-SA107-P2
Connection type	Connector*	PCB mount	Surface mount	Connector*
Features	- Electrical connections using AMP connector - Compact and high-resolution	- Infrared LED & phototransistor for long life - Narrow aperture slit for high resolution sensing - Compact size	- Ultra-compact - High-resolution sensing with phototransistor output - Ideal for restricted space applications	- High resolution sensing - Non-contact, noiseless sensing
Slot width mm (in)	5 (0.2)	2 to 8 (0.08 to 0.32)	1 to 3 (0.04 to 0.12)	3.6 (0.14)
Max. forward current (mA)	50mA	50mA	25mA	50mA
Max. collector dissipation (mW)	100mW	100mW	75mW	100mW
Operating temperature (°C)	-25° to +95°C	-25° to +85°C	-30° to +85°C	-25° to +85°C
Forward voltage (V)	1.2V typ.	1.2 to 1.3V	1.1V typ.	1.2V typ.
Light current (mA)	0.6mA to 14mA max.	0.03 to 14mA max.	0.05 to 0.50mA	0.5 to 14mA
Collector-emitter saturated voltage (V)	0.4V max.	0.4V max.	0.1V typ.	0.4V max.
Rising time (low to high)	8µS typ.	4µS typ. (10µS typ.: EE-SX1103, EE-SX1105, EE-SX1106)	10µS typ.	8µS typ.
Falling time (high to low)	8µS typ.	4 µS typ. (10µS typ.: EE-SX1103, EE-SX1105, EE-SX1106)	10µS typ.	8µS typ.

*Applicable Mating Connector
AMP 175778-3
AMP 173977-3

*Applicable Mating Connector
AMP 175778-3
AMP 173977-3

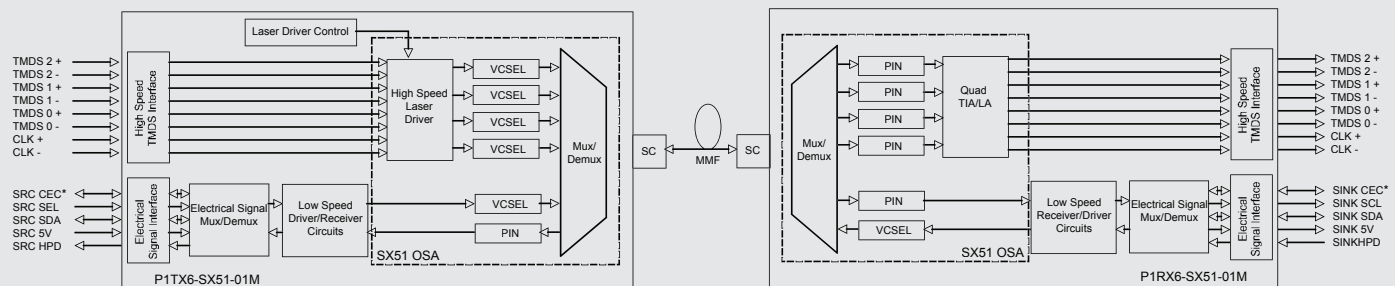
NOTE: The above specifications do not apply to all models listed.
For specific model information and additional product variations,
visit www.components.omron.com or contact your local Omron representative.

Fiber Optic - TOSA/ROSA



	SX4 OSA	SX51 OSA	SX51 Module
Features	- Four isolated channels on one multi-mode fiber - Designed to allow transmission over 300m of 50μ multi-mode fiber at 3.5Gbps - Integrated driver & TIA/LA - Ideal for DVI applications	- Six isolated channels (4 high speed and a low speed Bi-Di pair) on one multi-mode fiber - Designed to allow transmission over 300m of 50μ multi-mode fiber at 3.5Gbps - Integrated driver & TIA/LA - Ideal for DVI, HDMI or other HDCP Video Standards	- Enables an HDMI signal to be sent uncompressed over a single multimode fiber. - The P1TX/RX6-SX51-01M will maintain full HDCP/EDID compliance over a single fiber.
Number of Channels	4	6	6
Directivity	Unidirectional	Bidirectional	Bidirectional
Fiber Type	One Multimode Fiber	One Multimode Fiber	One Multimode Fiber
Data Rate per Channel (High Speed Channels)			
"V" version	1.65 Gb/s	1.65 Gb/s	1.65 Gb/s
"D" version	3.50 Gb/s	3.50 Gb/s	3.50 Gb/s
Aggregate Data Rate			
"V" version	6.6 Gb/s	6.6 Gb/s	6.6 Gb/s
"D" version	14.0 Gb/s	14.0 Gb/s	14.0 Gb/s
Data Input	PECL, CML, and LVDS	PECL, CML, and LVDS	TMDS, HDMI
Data Output	CML	CML	TMDS, HDMI
Optical Connector Type	SC	SC	SC
Electrical Connector Type	FPC (ZIF)	FPC (ZIF)	Plug Down (PCB mount)

Block Diagram of SX51 OSA and SX51M Module



*CEC functionality not currently enabled

Fiber Optic - Splitter P1C

Features

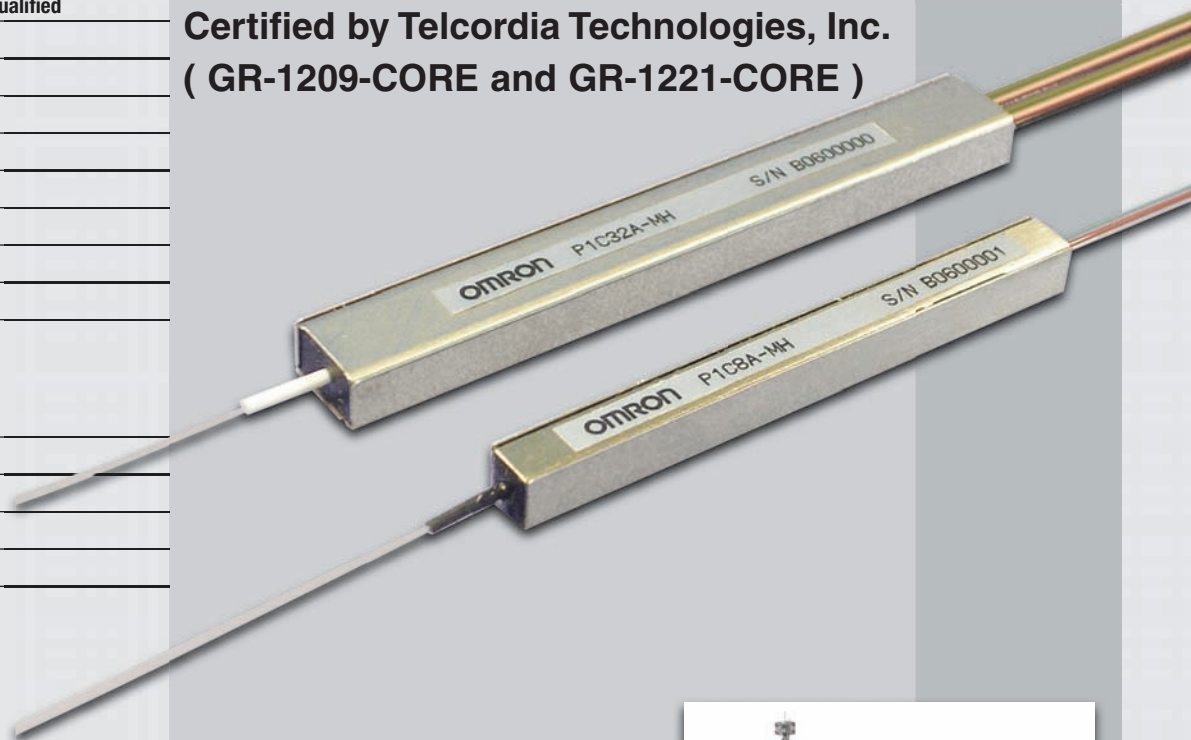
- Telcordia GR-1209 and GR-1221 qualified
- Low PDL
- Low insertion loss
- Low back reflection
- High output uniformity
- Compact package
- Stable optical parameters
- -40 to +85 Operate Temp.
- Broadband operating wavelength
- 4ch, 8ch, 16ch, 32ch

Applications

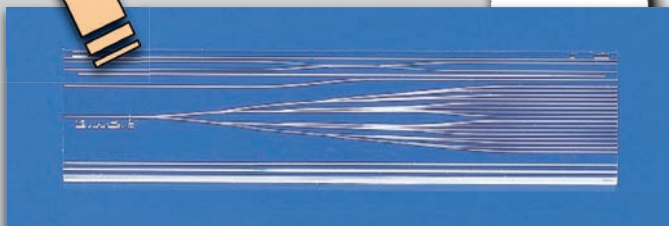
- FTTH, FTTB, FTTC
- Telecom
- Datacom
- LANs, CATV

Low Loss Splitter

Certified by Telcordia Technologies, Inc.
(GR-1209-CORE and GR-1221-CORE)

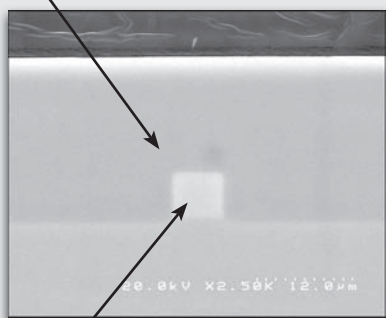


Splitter module



Bare Splitter

FHD

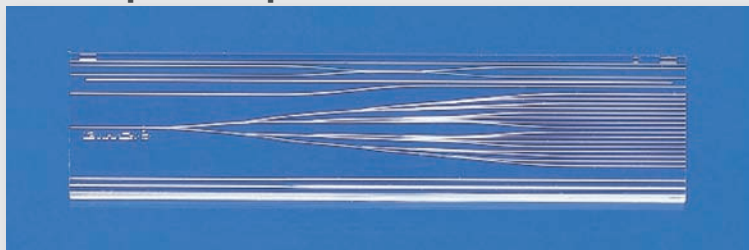


PCVD

Plasma Chemical Vapor
Deposition and Flame
Hydrolysis Deposition
are used to make a low
loss splitter.

Fiber Optic - Splitters

Bare Splitter Specifications



		1 x 4	1 x 8	1 x 16	1 x 32	1 x 64
Operating Wavelength (nm)		1260 ~ 1360 / 1480 ~ 1600				
Insertion Loss (dB)	Max	≤ 7.0	≤ 10.3	≤ 13.3	≤ 16.5	≤ 20.4
Insertion Loss (dB)	Uniformity	≤ 0.6	≤ 0.8	≤ 0.8	≤ 1.1	≤ 1.8
PDL (dB)		≤ 0.15				
Chip Size (mm)*	L x W	10.0 x 2.3	13.6 x 2.5	11.6 x 2.3	14.9 x 2.7	19.1 x 4.7
	T	1.0				
Output Waveguide Pitch (μm)		250		127**		127

* Before polishing size. Please ask for the details of chip size.

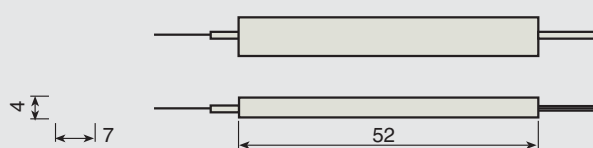
** The 1 x 32 splitter output waveguide pitch between #16 to #17 is only 254μm

We also have the 1x32 splitter in which the pitch is 127μm.

1x4 1x8



1x16 1x32

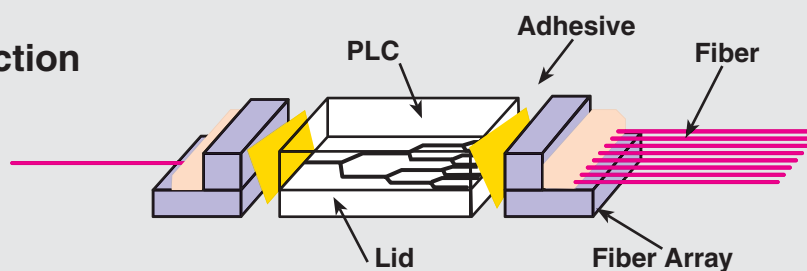


Splitter Module Specifications



	1 x 4	1 x 8	1 x 16	1 x 32	1 x 64
	P1C4A-M	P1C8A-M	P1C16A-M	P1C32A-M	P1C64A-M
Operating Wavelength (nm)	1260 ~ 1360 / 1480 ~ 1600				
Insertion Loss (dB)	Max	≤ 7.5	≤ 11.0	≤ 13.7	≤ 17.0
Insertion Loss (dB)	Uniformity	≤ 0.8	≤ 1.0	≤ 1.0	≤ 1.3
PDL (dB)		≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3
Return Loss (dB)		≥ 50	≥ 50	≥ 55	≥ 55
Operating Temperature	- 40° ~ + 85°				
Module Size W x H x L (mm)	4 x 4 x 40		7 x 4 x 52		14.7 x 58 x 4

Splitter Module Construction





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