

Panasonic Electric Works Corp. of America

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Standards Chart

Mechanical Relays

| Item     |    | UL/C-UL (Recognized) |                                                                                                      | CSA (Certified) |                                                                                                        | VDE (Certified)    |                                                                     | TV rating (UL/CSA) |        | TÜV (Certified)    |                                    |
|----------|----|----------------------|------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------|--------------------|--------|--------------------|------------------------------------|
|          |    | File No.             | Contact rating                                                                                       | File No.        | Contact rating                                                                                         | File No.           | Contact rating                                                      | File No.           | Rating | File No.           | Rating                             |
| SX (ASX) |    | E43149               | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (3×10 <sup>4</sup> )<br>1A 30V DC (10 <sup>s</sup> ) | LR26550<br>etc. | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (3×10 <sup>4</sup> )<br>1A 30V DC (10 <sup>s</sup> )   | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| GN (AGN) |    | E43149               | 0.3A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (3×10 <sup>4</sup> )<br>1A 30V DC (10 <sup>s</sup> ) | LR26550<br>etc. | 0.3A 125V AC (3×10 <sup>4</sup> )<br>0.3A 110V DC (3×10 <sup>4</sup> )<br>1A 30V DC (10 <sup>s</sup> ) | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| GQ (AGQ) |    | E43149               | 0.3A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (3×10 <sup>4</sup> )<br>1A 30V DC (10 <sup>s</sup> ) | LR26550<br>etc. | 0.3A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (3×10 <sup>4</sup> )<br>1A 30V DC (10 <sup>s</sup> )   | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| TX       |    | E43149               | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )   | LR26550<br>etc. | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )     | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| TX-D     |    | E43149               | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )   | LR26550<br>etc. | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )     | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| TX-S     |    | E43149               | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (3×10 <sup>4</sup> )<br>1A 30V DC (10 <sup>s</sup> ) | LR26550<br>etc. | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (3×10 <sup>4</sup> )<br>1A 30V DC (10 <sup>s</sup> )   | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| TQ       |    | E43149               | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (10 <sup>s</sup> )<br>1A 30V DC (10 <sup>s</sup> )   | LR26550<br>etc. | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (10 <sup>s</sup> )<br>1A 30V DC (10 <sup>s</sup> )     | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| TQ SMD   |    | E43149               | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )   | LR26550<br>etc. | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )     | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| TN       |    | E43149               | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (10 <sup>s</sup> )<br>1A 30V DC (10 <sup>s</sup> )   | LR26550<br>etc. | 0.5A 125V AC (10 <sup>s</sup> )<br>0.3A 110V DC (10 <sup>s</sup> )<br>1A 30V DC (10 <sup>s</sup> )     | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| TK       |    | E43149               | 0.5A 125V AC (10 <sup>s</sup> )<br>0.5A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )   | LR26550<br>etc. | 0.5A 125V AC (10 <sup>s</sup> )<br>0.5A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )     | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| HY       |    | E43149               | 1A 30V DC (10 <sup>s</sup> )                                                                         | LR26550<br>etc. | 1A 30V DC (10 <sup>s</sup> )                                                                           | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| DS       |    | E43149<br>etc.       | 0.6A 125V AC (10 <sup>s</sup> )<br>0.6A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )   | LR26550<br>etc. | 0.6A 125V AC (10 <sup>s</sup> )<br>0.6A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )     | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| DS-BT    |    | E43149<br>etc.       | 0.6A 125V AC (10 <sup>s</sup> )<br>0.6A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )   | LR26550<br>etc. | 0.6A 125V AC (10 <sup>s</sup> )<br>0.6A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )     | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| DS2Y     |    | E43149<br>etc.       | 0.6A 125V AC (10 <sup>s</sup> )<br>0.6A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )   | LR26550<br>etc. | 0.6A 125V AC (10 <sup>s</sup> )<br>0.6A 110V DC (10 <sup>s</sup> )<br>2A 30V DC (10 <sup>s</sup> )     | —                  | —                                                                   | —                  | —      | —                  | —                                  |
| PE (APE) |    | E43149               | 6A 277V AC                                                                                           | —               | Certified by C-UL                                                                                      | 122402VG           | 6A 250V to (cosφ=1.0)<br>1A 250V to (cosφ=0.4)                      | —                  | —      | —                  | —                                  |
| PA       |    | E43149               | 3A 250V AC<br>3A 30V DC<br>5A 250V AC<br>3A 250V AC                                                  | LR26550<br>etc. | 5A 250V AC<br>5A 30V DC<br>3A 250V AC<br>3A 30V DC                                                     | —                  | —                                                                   | —                  | —      | 98 06<br>13461 148 | IEL1131-2<br>Reinforced            |
| PQ       |    | E43028               | 5A 277V AC<br>1/6HP 277V AC<br>5A 30V DC<br>0.3A 110V DC                                             | LR26550<br>etc. | 5A 277V AC<br>1/6HP 277V AC<br>5A 30V DC<br>0.3A 110V DC                                               | 10063VG<br>92404VG | 5A 250V to (cosφ=0.4)<br>5A 30V...                                  | —                  | —      | 92 10<br>1645 701  | 5A 250V to (cosφ=0.4)<br>5A 30V... |
| NC       | 2c | E43028               | 5A 250V AC<br>1/10HP 125, 250V AC<br>5A 30V DC                                                       | LR26550<br>etc. | 5A 250V AC<br>1/10HP 125, 250V AC<br>5A 30V DC                                                         | 1004               | 5A 125V to (cosφ=1.0)<br>1A 125V to (cosφ=0.4)<br>5A 30V... (0ms)   | —                  | —      | —                  | —                                  |
|          | 4c | E43028               | 5A 125V AC<br>4A 250V AC<br>1/10HP 125, 250V AC<br>5A 30V DC                                         | LR26550<br>etc. | 5A 125V AC<br>4A 250V AC<br>1/10HP 125, 250V AC<br>5A 30V DC                                           | 1004               | 5A 125V to (cosφ=1.0)<br>1A 125V to (cosφ=0.4)<br>5A 30V... (0ms)   | —                  | —      | —                  | —                                  |
| NC Amber | 2c | E43028               | 3A 250V AC<br>1/20HP 125, 250V AC<br>5A 30V DC                                                       | LR26550<br>etc. | 3A 250V AC<br>1/20HP 125, 250V AC<br>5A 30V DC                                                         | 1005               | 1A 125V to (cosφ=1.0)<br>0.5A 125V to (cosφ=0.4)<br>1A 30V... (0ms) | —                  | —      | —                  | —                                  |
|          | 4c | E43028               | 2A 250V AC<br>1/20HP 125, 250V AC<br>5A 30V DC                                                       | LR26550<br>etc. | 2A 250V AC<br>1/20HP 125, 250V AC<br>5A 30V DC                                                         | 1005               | 1A 125V to (cosφ=1.0)<br>0.5A 125V to (cosφ=0.4)<br>1A 30V... (0ms) | —                  | —      | —                  | —                                  |

- Notes
1. For UL/CSA recognized type s, add suffix "UL/CSA" (HA Relays, NL Relays)
  2. Please inquire if you need the relay marked standards that are not marked normally.
  3. \*\*\*indicates the UL/C-UL recognition file number.

## Standards Chart

[illegible]

Standards Chart

| Item              |               | UL/C-UL (Recognized) |                                                                                                                                                                                                    | CSA (Certified)    |                                                                | VDE (Certified)  |                                                                                            | TV rating (UL/CSA)             |                                                                         | TUV (Certified)                                                |                                                               |
|-------------------|---------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------|
|                   |               | File No.             | Contact rating                                                                                                                                                                                     | File No.           | Contact rating                                                 | File No.         | Contact rating                                                                             | File No.                       | Rating                                                                  | File No.                                                       | Rating                                                        |
| DSP               | 1a            | E43028               | 8A 250V AC<br>1/4HP 125, 250V AC<br>5A 30V DC                                                                                                                                                      | LR26550<br>etc.    | 8A 250V AC<br>1/6HP 125, 250V AC<br>5A 30V DC                  | —                | —                                                                                          | —                              | —                                                                       | 93 11<br>13461 081                                             | 8A 250V AC (cosφ=1.0)<br>5A 250V AC (cosφ=0.4)<br>5A 30V DC   |
|                   | 1a1b          | E43028               | 5A 250V AC<br>1/4HP 125, 250V AC<br>5A 30V DC                                                                                                                                                      | LR26550<br>etc.    | 5A 250V AC<br>1/6HP 125, 250V AC<br>5A 30V DC                  | —                | —                                                                                          | —                              | —                                                                       | 93 11<br>13461 081                                             | 5A 250V AC (cosφ=1.0)<br>3A 250V AC (cosφ=0.4)<br>5A 30V DC   |
|                   | 2a            | E43028               | 5A 250V AC<br>1/10HP 125, 250V AC<br>5A 30V DC                                                                                                                                                     | LR26550<br>etc.    | 5A 250V AC<br>1/10HP 125, 250V AC<br>5A 30V DC                 | —                | —                                                                                          | —                              | —                                                                       | 93 11<br>13461 081                                             | 5A 250V AC (cosφ=1.0)<br>3A 250V AC (cosφ=0.4)<br>5A 30V DC   |
| DK                | 1a            | E43028               | 10A 250V AC<br>1/2HP 125, 250V AC<br>10A 30V DC                                                                                                                                                    | LR26550<br>etc.    | 10A 250V AC<br>1/8HP 125, 250V AC<br>10A 30V DC                | —                | —                                                                                          | —                              | —                                                                       | 87 05<br>1645 520                                              | 10A 250V AC (cosφ=1.0)<br>5A 250V AC (cosφ=0.4)<br>10A 30V DC |
|                   | 1a1b, 2a      | E43028               | 8A 250V AC<br>1/4HP 125, 250V AC<br>8A 30V DC                                                                                                                                                      | LR26550<br>etc.    | 8A 250V AC<br>1/4HP 125, 250V AC<br>8A 30V DC                  | —                | —                                                                                          | —                              | —                                                                       | 87 05<br>1645 520                                              | 8A 250V AC (cosφ=1.0)<br>4A 250V AC (cosφ=0.4)<br>8A 30V DC   |
| DE                | 1a            | E120782              | PILOT DUTY B300<br>R300                                                                                                                                                                            | LR85932            | PILOT DUTY B300<br>R300                                        | 115944           | 8A 250V to (cosφ=1.0)                                                                      | —                              | —                                                                       | —                                                              | —                                                             |
|                   | 1a1b          | E120782              | PILOT DUTY B300<br>R300                                                                                                                                                                            | LR85932            | PILOT DUTY B300<br>R300                                        | 115944           | 8A 250V to (cosφ=1.0)                                                                      | —                              | —                                                                       | —                                                              | —                                                             |
|                   | 2a            | E120782              | PILOT DUTY B300<br>R300                                                                                                                                                                            | LR85932            | PILOT DUTY B300<br>R300                                        | 115944           | 8A 250V to (cosφ=1.0)                                                                      | —                              | —                                                                       | —                                                              | —                                                             |
| DJ (ADJ)          |               | E43149               | 16A 277V AC                                                                                                                                                                                        | —                  | Certified by C-UL                                              | —                | —                                                                                          | —                              | —                                                                       | —                                                              | —                                                             |
| DQ (ADQ)          |               | E43149               | 30A 277V AC                                                                                                                                                                                        | —                  | Certified by C-UL                                              | —                | —                                                                                          | —                              | —                                                                       | —                                                              | —                                                             |
| S                 |               | E43028               | 4A 250V AC<br>1/20HP 125V AC<br>(FLA1.5A)<br>1/20HP 250V AC<br>(FLA0.75A)<br>3A 30V DC                                                                                                             | LR26550<br>etc.    | 4A 250V AC<br>1/20HP 125V AC<br>1/20HP 250V AC<br>3A 30V DC    | —                | —                                                                                          | —                              | —                                                                       | —                                                              | —                                                             |
| ST                |               | E43028               | 8A 250V AC<br>1/4HP 125, 250V AC<br>5A 30V DC                                                                                                                                                      | LR26550<br>etc.    | 8A 250V AC<br>1/4HP 125, 250V AC<br>5A 30V DC                  | 1017             | 8A 250V to (cosφ=1.0)<br>4A 250V to (cosφ=0.4)<br>5A 30V...                                | UL<br>E43028<br>CSA<br>LR26550 | ST1-->TV-3<br>(Without -Y3)<br>ST2-->TV-3<br>(Without 7&8 -Y3 terminal) | —                                                              | —                                                             |
| SP                | 2c            | E43028               | 15A 250V AC<br>1/2HP 125, 250V AC<br>10A 30V DC                                                                                                                                                    | LR26550<br>etc.    | 15A 250V AC<br>10A 250V AC<br>1/2HP 125, 250V AC<br>10A 30V DC | —                | —                                                                                          | —                              | —                                                                       | B03 03<br>13461 010                                            | 15A 250V AC (cosφ=1.0)<br>10A 30V DC                          |
|                   | 4c            | E43028               | 10A 250V AC<br>1/3HP 125, 250V AC<br>10A 30V DC                                                                                                                                                    | LR26550<br>etc.    | 10A 250V AC<br>1/3HP 125, 250V AC<br>10A 30V DC                | —                | —                                                                                          | —                              | —                                                                       | 94 07<br>13461 093                                             | 10A 250V AC (cosφ=1.0)<br>10A 30V DC                          |
| SF                |               | E43149               | 6A 250V AC                                                                                                                                                                                         | LR26550 etc.       | 6A 250V AC                                                     | —                | —                                                                                          | —                              | —                                                                       | —                                                              | TUV approved                                                  |
| SF double contact |               | E120782              | 6A 250V AC<br>6A 24V DC                                                                                                                                                                            | —                  | Certified by C-UL                                              | —                | —                                                                                          | —                              | —                                                                       | 968 EZ<br>116.00<br>01 (SF2D)<br>968 EZ<br>113.00<br>01 (SF4D) | 8A 240V DC<br>6A 230V AC                                      |
| LF (ALF)          |               | E43028               | 25A 277V AC<br>20A 277V AC                                                                                                                                                                         | —                  | Certified by C-UL                                              | Nr. 127653<br>UG | 20A 250V AC<br>(cosφ=1.0)                                                                  | —                              | —                                                                       | BL 99 11<br>13461 190                                          | 20A 250V AC<br>(cosφ=1.0)                                     |
| LE (ALE)          |               | E43149               | 16A 277V AC<br>16A 30V DC<br>18A 125V AC                                                                                                                                                           | LR26550            | 16A 277V AC<br>16A 30V DC<br>18A 125V AC                       | Nr. 122405<br>UG | 16A 250V AC<br>(cosφ=1.0)<br>16A 30V DC (0ms.)                                             | UL<br>E43149<br>CSA<br>LR26550 | TV-5                                                                    | BL 99 08<br>13461 196                                          | 16A 250V AC<br>(cosφ=1.0)<br>16A 30V DC (0ms.)                |
| LZ (ALZ)          |               | E43149               | 16A 277V AC<br>34.8LRA/7.2FLA/120V AC<br>15LRA/3FLA/120V AC<br>10LRA/3FLA/240V AC<br>20A 240V AC<br>(N.O. only)<br>16A 30V DC<br>25A 240V AC<br>15A 240V AC<br>Resistive load 105°C<br>(N.O. only) | —                  | Certified by C-UL                                              | Nr.<br>40000380  | 16A 250V AC<br>(cosφ=1.0)                                                                  | C-UL<br>E43149                 | TV-5                                                                    | —                                                              | —                                                             |
| LJ (ALJ)          |               | E43149               | 3A 277V AC Resistive 10 <sup>5</sup><br>cycles<br>3A 30V DC Resistive 6×10 <sup>3</sup><br>cycles<br>5A 277V AC General Use<br>5×10 <sup>4</sup> cycles<br>1/8HP 277V AC 3×10 <sup>3</sup> cycles  | —                  | Certified by C-UL                                              | 40004718         | 3A 250V AC<br>(cosφ=1.0) 10 <sup>5</sup> cycles<br>3A 30V DC 0ms 10 <sup>4</sup><br>cycles | —                              | —                                                                       | —                                                              | —                                                             |
| LD (ALD)          |               | E43028               | 3A 277V AC<br>3A 30V DC                                                                                                                                                                            | LR26550<br>etc.    | 3A 277V AC<br>3A 30V DC                                        | Nr. 117344<br>UG | 3A 250V AC (cosφ=1.0)<br>3A 30V DC (0ms.)                                                  | —                              | —                                                                       | B02 09<br>13461 237                                            | 3A 250V AC (cosφ=1.0)<br>3A 30V DC (0ms.)                     |
| LA (ALA)          | Standard      | E43149               | 3A 125V AC<br>3A 30V DC<br>5A 50V DC                                                                                                                                                               | LR26550<br>etc.    | 3A 125V AC<br>3A 30V DC<br>5A 50V DC                           | Nr. 116920<br>UG | 3A 125V AC<br>(cosφ=1.0)<br>3A 30V DC (0ms.)                                               | —                              | —                                                                       | BL 98 04<br>13461 146                                          | 3A 125V AC<br>(cosφ=1.0)<br>3A 30V DC (0ms.)                  |
|                   | High capacity | E43149               | 5A 277V AC<br>5A 30V DC                                                                                                                                                                            | LR26550<br>etc.    | 5A 277V AC<br>5A 30V DC                                        | Nr. 116920<br>UG | 5A 250V DC<br>(cosφ=1.0)<br>5A 30V DC (0ms.)                                               | UL<br>E43149<br>CSA<br>LR26550 | TV-4                                                                    | BL 98 04<br>13461 146                                          | 5A 250V AC<br>(cosφ=1.0)<br>5A 30V DC (0ms.)                  |
| LK-S              |               | E43149               | 5A 277V AC<br>5A 30V DC<br>10A 277V AC                                                                                                                                                             | LR26550<br>etc.    | 5A 277V AC<br>5A 30V DC<br>10A 277V AC                         | Nr. 6620<br>UG   | 5A 250V AC<br>(cosφ=1.0)<br>10A 250V AC<br>(cosφ=1.0)                                      | UL<br>E43149<br>CSA<br>LR26550 | TV-5                                                                    | BL 99 05<br>13461 162                                          | 5A 250V AC<br>(cosφ=1.0)                                      |
| LK-P              |               | E43149               | 10A 277V AC<br>5A 30V DC                                                                                                                                                                           | LR26550<br>etc.    | 10A 277V AC<br>5A 30V DC                                       | Nr. 6620<br>UG   | 10A 250V AC<br>(cosφ=1.0)                                                                  | UL<br>E43149<br>CSA<br>LR26550 | TV-5                                                                    | BL 99 05<br>13461 161                                          | 10A 250V AC<br>(cosφ=1.0)<br>5A 30V DC (0ms.)                 |
| LK                |               | E43149               | 5A 277V AC<br>5A 30V DC                                                                                                                                                                            | LR26550<br>LR68004 | 5A 277V AC<br>5A 30V DC                                        | Nr. 6620         | 5A 250V AC<br>(cosφ=1.0)                                                                   | UL<br>E43149<br>CSA<br>LR26550 | TV-5                                                                    | 99 05<br>13461 160                                             | 5A 250V AC<br>(cosφ=1.0)<br>5A 30V DC (0ms.)                  |

# Standards Chart

| SEMKO (Certified) |                                                                         | FIMKO    |                | SEV                   |                         | BSI      |                 | Remarks | Standard marking                 |
|-------------------|-------------------------------------------------------------------------|----------|----------------|-----------------------|-------------------------|----------|-----------------|---------|----------------------------------|
| File No.          | Contact rating                                                          | File No. | Contact rating | File No.              | Contact rating          | File No. | Rating          |         |                                  |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/CSA, TÜV                      |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/CSA, TÜV                      |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/CSA, TÜV                      |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/CSA, TÜV                      |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/CSA, VDE, TÜV                 |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/CSA, VDE                      |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/CSA, VDE                      |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/CSA, VDE                      |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/C-UL, VDE (Pending)           |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/C-UL                          |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/CSA                           |
| —                 | —                                                                       | —        | —              | —                     | SEV approved            | —        | —               |         | UL/CSA, VDE, SEV                 |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/CSA, TÜV                      |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/CSA, TÜV                      |
| —                 | —                                                                       | —        | —              | —                     | SEV approved            | —        | —               |         | UL/CSA, TÜV, SEV                 |
| —                 | —                                                                       | —        | —              | 01, 1851              | 6A 230V AC<br>6A 24V DC | —        | —               |         | UL/C-UL, TÜV, SEV                |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | C-UL, TÜV, VDE                   |
| 9923078           | 10A 250V AC<br>16A 30V DC<br>(High sensitivity type<br>is not approved) | —        | —              | —                     | —                       | —        | —               |         | UL/CSA, TÜV, VDE                 |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | C-UL, VDE                        |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/C-UL, VDE                     |
| —                 | —                                                                       | —        | —              | —                     | —                       | —        | —               |         | UL/CSA, TÜV                      |
| 9749137           | 3A 125V AC<br>3A 30V DC                                                 | —        | —              | —                     | —                       | —        | —               |         | SEMKO, TÜV, UL/CSA,<br>VDE       |
| 9749137           | 4A/65A 250V AC                                                          | —        | —              | —                     | —                       | —        | —               |         | SEMKO, TÜV, UL/CSA,<br>VDE, TV-4 |
| 9920150           | 3A/100A 250V AC<br>5A/40V 250V AC                                       | —        | —              | 98,<br>5 51716,<br>01 | 5A 250V AC              | —        | —               |         | SEMKO, TÜV, UL/CSA,<br>TV-5      |
| 9920150           | 3A/100A 250V AC<br>5A/40V 250V AC<br>10A 250V DC                        | —        | —              | 98,<br>5 51716,<br>01 | 10A 250V AC             | —        | —               |         | SEMKO, TÜV, UL/CSA,<br>TV-5      |
| 9920150           | 3A/100A 250V AC<br>5A/40V 250V AC                                       | —        | —              | 96,<br>1 10533,<br>02 | —                       | 8007     | 3A/100A 250V AC |         | SEMKO, TÜV, UL/CSA,<br>TV-5      |

Standards Chart

| Item |                             | UL/C-UL (Recognized) |                                                                                                                                                                                                                                                                                                                                                      | CSA (Certified) |                                                                                                        | VDE (Certified)                              |                                                                                     | TV rating (UL/CSA)         |                               | TUV (Certified)   |                                                                     |
|------|-----------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------|----------------------------|-------------------------------|-------------------|---------------------------------------------------------------------|
|      |                             | File No.             | Contact rating                                                                                                                                                                                                                                                                                                                                       | File No.        | Contact rating                                                                                         | File No.                                     | Contact rating                                                                      | File No.                   | Rating                        | File No.          | Rating                                                              |
| JQ   | Standard type (5A) 1a       | E43028               | 5A 125V AC<br>5A 277V AC<br>5A 30V DC<br>0.3A 110V DC<br>1/10HP 125V AC<br>1/6HP 277V AC                                                                                                                                                                                                                                                             | LR26550         | 5A 125V AC<br>5A 277V AC<br>5A 30V DC<br>0.3A 110V DC<br>1/10HP 125V AC<br>1/6HP 277V AC               | Nr.005336 UG<br>Nr.084049 UG                 | 5A 250V AC (cosφ=0.4) (N.O.)<br>5A 30V DC (0ms) (N.C.)                              | —                          | —                             | B 02 07 13461 229 | 5A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)                            |
|      | Standard type (5A) 1c       | E43028               | 5A 125V AC<br>5A 277V AC<br>5A 30V DC<br>0.3A 110V DC<br>1/10HP 125V AC<br>1/6HP 277V AC                                                                                                                                                                                                                                                             | LR26550         | 5A 125V AC<br>5A 277V AC<br>5A 30V DC<br>0.3A 110V DC<br>1/10HP 125V AC<br>1/6HP 277V AC               | Nr.005336 UG<br>Nr.084049 UG                 | 5A 250V AC (cosφ=0.4) (N.O.)<br>3A 250V AC (cosφ=0.4) (N.C.)<br>5A 30V DC (0ms)     | —                          | —                             | B 02 07 13461 229 | 5A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)                            |
|      | High capacity type (10A) 1a | E43028               | 10A 125V AC<br>8A 277V AC<br>5A 30V DC<br>0.3A 110V DC<br>1/6HP 125V AC<br>1/6HP 277V AC                                                                                                                                                                                                                                                             | LR26550         | 10A 125V AC<br>8A 277V AC<br>5A 30V DC<br>0.3A 110V DC<br>1/6HP 125V AC<br>1/6HP 277V AC               | Nr.005336 UG<br>Nr.084049 UG                 | 10A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)                                           | —                          | —                             | B 02 07 13461 229 | 10A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)                           |
|      | High capacity type (10A) 1c | E43028               | 10A 125V AC<br>8A 277V AC<br>5A 30V DC<br>0.3A 110V DC<br>1/6HP 125V AC<br>1/6HP 277V AC                                                                                                                                                                                                                                                             | LR26550         | 10A 125V AC<br>8A 277V AC<br>5A 30V DC<br>0.3A 110V DC<br>1/6HP 125V AC<br>1/6HP 277V AC               | Nr.005336 UG<br>Nr.084049 UG                 | (N.O.)<br>10A 250V to (cosφ=0.4) (N.C.)<br>3A 250V to (cosφ=0.4)<br>5A 30V... (0ms) | —                          | —                             | B 02 07 13461 229 | 10A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)                           |
| JS   | Standard type               | E43028               | 10A 125V AC, 6A 277V AC<br>5A 30V DC, 1/6HP 125V AC<br>1/6HP 277V AC<br>12A 125V AC (N.O., N.C.)<br>12A 277V AC (N.O., N.C.)<br>10A 125V AC (N.O., N.C.)<br>85°C<br>5A 125V AC (N.O., N.C.)<br>105°C, B type<br>4FLA/4LRA 125V AC105°C<br>2FLA/4LRA 125V AC105°C<br>1/3HP 125V AC70°C N.O.<br>1/3HP 277V AC70°C N.O.<br>6FLA/6LRA 125V AC85°C (N.O.) | LR26550         | 10A 125V AC<br>12A 125V AC<br>6A 277V AC<br>12A 277V AC<br>5A 30V DC<br>1/6HP 125V AC<br>1/6HP 277V AC | Nr.004065 UG                                 | 10A 125V to (cosφ=1.0)<br>5A 30V... (0ms)<br>6A 250V AC (cosφ=1.0)                  | UL E43028 CSA LR26550      | 1a-->TV-5<br>1c-->TV-5 (N.O.) | 96 11 13461 129   | 10A 125V AC (cosφ=1.0)<br>6A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)  |
| JV-N |                             | E43028               | 16A 125V AC<br>16A 277V AC<br>10A 30V DC<br>0.3A 110V DC<br>1/10HP 125V AC<br>1/10HP 277V AC                                                                                                                                                                                                                                                         | LR26550         | 16A 125V AC<br>16A 277V AC<br>10A 30V DC<br>0.3A 110V DC<br>1/10HP 125V AC<br>1/10HP 277V AC           | —                                            | —                                                                                   | —                          | —                             | 96 11 13461 129   | 16A 250V AC (cosφ=0.4)<br>10A 30V DC (0ms)                          |
| JW   | Standard type 1a            | E43028               | 5A 277V AC<br>5A 30V DC<br>1/6HP 125V AC<br>1/6HP 250V AC                                                                                                                                                                                                                                                                                            | LR26550 etc.    | 5A 277V AC<br>5A 30V DC<br>1/6HP 125V AC<br>1/6HP 250V AC<br>B300                                      | Nr.004090 UG<br>Nr.004257 UG<br>Nr.131174 UG | 5A 250V AC (cosφ=1.0)<br>3A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)                   | UL E43028 CSA LR26550 etc. | 1a-->TV-5                     | 87 05 1645 521    | 5A 250V AC (cosφ=1.0)<br>3A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)   |
|      | Standard type 1c            | E43028               | 5A 277V AC<br>5A 30V DC<br>1/6HP 125V AC<br>1/6HP 250V AC                                                                                                                                                                                                                                                                                            | LR26550 etc.    | 5A 277V AC<br>5A 30V DC<br>1/6HP 125V AC<br>1/6HP 250V AC<br>B300                                      | Nr.004090 UG<br>Nr.004257 UG<br>Nr.131174 UG | 5A 250V AC (cosφ=1.0)<br>3A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)                   | —                          | —                             | 87 05 1645 521    | 5A 250V AC (cosφ=1.0)<br>3A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)   |
|      | Standard type 2a            | E43028               | 5A 277V AC<br>5A 30V DC<br>1/6HP 125V AC<br>1/6HP 250V AC<br>B300                                                                                                                                                                                                                                                                                    | LR26550 etc.    | 5A 277V AC<br>5A 30V DC<br>1/6HP 125V AC<br>1/6HP 250V AC<br>B300                                      | Nr.004090 UG<br>Nr.004257 UG<br>Nr.131174 UG | 5A 250V AC (cosφ=1.0)<br>3A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)                   | —                          | —                             | 87 05 1645 521    | 5A 250V AC (cosφ=1.0)<br>3A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)   |
|      | Standard type 2c            | E43028               | 5A 277V AC<br>5A 30V DC<br>1/6HP 125V AC<br>1/6HP 250V AC<br>B300                                                                                                                                                                                                                                                                                    | LR26550 etc.    | 5A 277V AC<br>5A 30V DC<br>1/6HP 125V AC<br>1/6HP 250V AC<br>B300                                      | Nr.004090 UG<br>Nr.004257 UG<br>Nr.131174 UG | 5A 250V AC (cosφ=1.0)<br>3A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)                   | —                          | —                             | 87 05 1645 521    | 5A 250V AC (cosφ=1.0)<br>3A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)   |
|      | High capacity type 1a       | E43028               | 10A 277V AC<br>10A 30V DC<br>1/3HP 125V AC<br>1/3HP 250V AC<br>B300                                                                                                                                                                                                                                                                                  | LR26550 etc.    | 10A 277V AC<br>10A 30V DC<br>1/3HP 125V AC<br>1/3HP 250V AC                                            | Nr.004090 UG<br>Nr.004257 UG<br>Nr.131174 UG | 10A 250V AC (cosφ=1.0)<br>10A 250V AC (cosφ=0.4)<br>10A 30V DC (0ms)                | UL E43028 CSA LR26550      | 1a-->TV-5                     | 87 05 1645 521    | 10A 250V AC (cosφ=1.0)<br>7A 250V AC (cosφ=0.4)<br>10A 30V DC (0ms) |
|      | High capacity type 1c       | E43028               | 10A 277V AC<br>10A 30V DC<br>1/3HP 125V AC<br>1/3HP 250V AC                                                                                                                                                                                                                                                                                          | LR26550 etc.    | 10A 277V AC<br>10A 30V DC<br>1/3HP 125V AC<br>1/3HP 250V AC                                            | Nr.004090 UG<br>Nr.004257 UG<br>Nr.131174 UG | 10A 250V AC (cosφ=1.0)<br>10A 250V AC (cosφ=0.4)<br>10A 30V DC (0ms)                | —                          | —                             | 87 05 1645 521    | 10A 250V AC (cosφ=1.0)<br>7A 250V AC (cosφ=0.4)<br>10A 30V DC (0ms) |
| JC   | 1a                          | E43028               | 15A 250V AC<br>15A 30V DC<br>1HP 125V AC<br>1HP 250V AC                                                                                                                                                                                                                                                                                              | LR26550 etc.    | 15A 250V AC<br>15A 30V DC<br>1HP 125V AC<br>1HP 250V AC                                                | Nr. 2771 UG                                  | 10A 250V AC (cosφ=1.0)<br>7.5A 250V AC (cosφ=0.4)<br>10A 30V DC (0ms)               | UL E43028 CSA LR26550      | TV-8                          | 93 02 13461 078   | 15A 250V AC (cosφ=1.0)                                              |
|      | 2a                          | E43028               | 10A 250V AC<br>10A 30V DC<br>1/3HP 125V AC<br>1/3HP 250V AC                                                                                                                                                                                                                                                                                          | LR26550 etc.    | 10A 250V AC<br>10A 30V DC<br>1/3HP 125V AC<br>1/3HP 250V AC                                            | Nr. 2771 UG                                  | 5A 250V AC (cosφ=1.0)<br>3A 250V AC (cosφ=0.4)<br>5A 30V DC (0ms)                   | UL E43028 CSA LR26550 etc. | TV-5                          | 93 02 13461 078   | 10A 250V AC (cosφ=1.0)<br>5A 50V DC (0ms)                           |

## Standards Chart

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Standards Chart

| Item                            |           | UL/C-UL (Recognized) |                                                                                                                        | CSA (Certified) |                                                                                                                                       | VDE (Certified)         |                                                                     | TV rating (UL/CSA)                                   |        | TUV (Certified)                                                                              |                                                                      |
|---------------------------------|-----------|----------------------|------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------|------------------------------------------------------|--------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
|                                 |           | File No.             | Contact rating                                                                                                         | File No.        | Contact rating                                                                                                                        | File No.                | Contact rating                                                      | File No.                                             | Rating | File No.                                                                                     | Rating                                                               |
| JM                              | Slim type | E43028               | 20A 125V AC<br>20A 250V AC<br>1½HP 125V AC<br>1HP 250V AC                                                              | LR26550         | 20A 125V AC<br>20A 250V AC<br>1½HP 125V AC<br>1HP 250V AC                                                                             | Nr. 3584                | 20A 250V to (cosφ=1.0)<br>12A 220V to (cosφ=0.4)                    | —                                                    | —      | B02 07<br>13461 231                                                                          | 20A 250V AC (cosφ=1.0)<br>20A 250V AC (cosφ=0.4)<br>10A 30V DC (0ms) |
|                                 | Flat type | E43028               | 20A 125V AC<br>20A 250V AC<br>1½HP 125V AC<br>1HP 250V AC                                                              | LR26550         | 20A 125V AC<br>20A 250V AC<br>1½HP 125V AC<br>1HP 250V AC                                                                             | Nr. 3584                | 20A 250V to (cosφ=1.0)<br>12A 230V to (cosφ=0.4)                    | —                                                    | —      | B02 07<br>13461 227                                                                          | 20A 250V AC (cosφ=1.0)<br>20A 250V AC (cosφ=0.4)<br>10A 30V DC (0ms) |
| JT-V                            | 1a        | E43028               | 30A 277V AC, 2HP 250V AC,<br>1HP 125V AC<br>Tungsten<br>15A 125V AC, 5A 250V AC                                        | —               | Certified by C-UL                                                                                                                     | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
|                                 | 1c        | E43028               | (N.C. side)<br>10A 277V AC, 1/2HP 250V AC,<br>1/4HP 125V AC<br>(N.O. side)<br>20A 277V AC, 2HP 250V AC,<br>1HP 125V AC | —               |                                                                                                                                       | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
| JT-N                            | 1a        | E43028               | 30A 277V AC, 2HP 250V AC,<br>1HP 125V AC<br>Tungsten<br>15A 125V AC, 5A 250V AC                                        | LR68004         | 10A 277V AC, 1HP 250V AC,<br>3/4HP 125V AC                                                                                            | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
|                                 | 1c        | E43028               | (N.C. side)<br>10A 277V AC, 1/2HP 250V AC,<br>1/4HP 125V AC<br>(N.O. side)<br>20A 277V AC, 2HP 250V AC,<br>1HP 125V AC | LR68004         | (N.C. side)<br>10A 277V AC, 1/2HP 250V AC,<br>1/4HP 125V AC<br>(N.O. side)<br>10A 277V AC, 15A 125V AC,<br>1HP 250V AC, 3/4HP 125V AC | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
| HN (AHN)                        | 2c        | E43149               | 5A 277V AC<br>5A 30V DC                                                                                                | —               | Certified by C-UL                                                                                                                     | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
| HJ                              | 2c        | E43149               | 7A 250V AC<br>7A 30V DC                                                                                                | —               | Certified by C-UL                                                                                                                     | —                       | —                                                                   | —                                                    | —      | R2024382<br>(Standard)<br>R2-50006950<br>(Push button)<br>R50006950<br>(CR diode Au plating) | 7A 250V to (cosφ=1.0)<br>7A 30V∴ (0ms)                               |
|                                 | 4c        | E43149               | 5A 200V AC<br>5A 30V DC                                                                                                | —               | Certified by C-UL                                                                                                                     | —                       | —                                                                   | —                                                    | —      | R2024382<br>(Standard)<br>R2-50006950<br>(Push button)<br>R50006950<br>(CR diode Au plating) | 5A 250V to (cosφ=1.0)<br>5A 30V∴ (0ms)                               |
| HC Standard                     | 1c        | E43028               | 10A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                           | LR26550<br>etc. | 10A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                                          | 4811,<br>2011<br>2735UG | 10A 250V to (cosφ=1.0)<br>3A 250V to AC (cosφ=0.4)<br>3A 30V∴ (0ms) | UL<br>E43149<br>CSA<br>LR26550<br>LR42758<br>LR44444 | TV-3   | —                                                                                            | —                                                                    |
|                                 | 2c        | E43028               | 7A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                            | LR26550<br>etc. | 7A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                                           | 4811,<br>2011<br>2735UG | 7A 250V to (cosφ=1.0)<br>2A 250V to (cosφ=0.4)<br>3A 30V∴ (0ms)     | UL<br>E43149<br>CSA<br>LR26550<br>LR42758<br>LR44444 | TV-3   | —                                                                                            | —                                                                    |
|                                 | 3c        | E43028               | 7A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                            | LR26550<br>etc. | 7A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                                           | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
|                                 | 4c        | E43028               | 5A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                            | LR26550<br>etc. | 5A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                                           | 4811,<br>209<br>2735UG  | 5A 65V to (cosφ=1.0)<br>3A 65V to (cosφ=0.4)<br>3A 30V∴ (0ms)       | —                                                    | —      | —                                                                                            | —                                                                    |
|                                 | 4c twin   | E43028               | 3A 250V AC<br>3A 30V DC                                                                                                | LR42758         | 3A 250V AC<br>3A 30V DC                                                                                                               | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
| HC Amber                        | 1c        | E43028               | 6A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                            | LR26550<br>etc. | 6A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                                           | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
|                                 | 2c        | E43028               | 4A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                            | LR26550<br>etc. | 4A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                                           | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
|                                 | 4c        | E43028               | 2A 250V AC<br>½HP 125, 250V AC<br>2A 30V DC                                                                            | LR26550<br>etc. | 2A 250V AC<br>½HP 125, 250V AC<br>2A 30V DC                                                                                           | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
|                                 | 4c twin   | E43028               | 1A 250V AC<br>1A 30V DC                                                                                                | LR42758         | 1A 250V AC<br>1A 30V DC                                                                                                               | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
| HC keep                         |           | E43149               | 3A 250V AC<br>3A 30V DC                                                                                                | LR26550<br>etc. | 3A 250V AC<br>3A 30V DC                                                                                                               | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
| HC included diode type (For DC) | 1c        | E43028               | 10A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                           | LR26550<br>etc. | 10A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                                          | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
|                                 | 2c        | E43028               | 7A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                            | LR26550<br>etc. | 7A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                                           | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
|                                 | 3c        | E43028               | 7A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                            | LR26550<br>etc. | 7A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                                           | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
|                                 | 4c        | E43028               | 5A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                            | LR26550<br>etc. | 5A 250V AC<br>½HP 125, 250V AC<br>3A 30V DC                                                                                           | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |
|                                 | 4c twin   | E43028               | 3A 250V AC<br>3A 30V DC                                                                                                | LR42758         | 3A 250V AC<br>3A 30V DC                                                                                                               | —                       | —                                                                   | —                                                    | —      | —                                                                                            | —                                                                    |

## Standards Chart

[illegible]



# Standards Chart

| Item                                 |              | UL/C-UL (Recognized) |                                                                                                                          | CSA (Certified) |                                                                                                                       | VDE (Certified)      |                                                                                                                         | TV rating (UL/CSA)                     |                                                               | TUV (Certified)      |                                                                            |
|--------------------------------------|--------------|----------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|----------------------|----------------------------------------------------------------------------|
|                                      |              | File No.             | Contact rating                                                                                                           | File No.        | Contact rating                                                                                                        | File No.             | Contact rating                                                                                                          | File No.                               | Rating                                                        | File No.             | Rating                                                                     |
| HC<br>Included<br>CR circuit<br>type | 1c           | E43028               | 10A 250V AC<br>1/3HP 125, 250V AC<br>3A 30V DC                                                                           | LR26550<br>etc. | 10A 250V AC<br>1/3HP 125, 250V AC<br>3A 30V DC                                                                        | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |
|                                      | 2c           | E43028               | 7A 250V AC<br>1/6HP 125, 250V AC<br>3A 30V DC                                                                            | LR26550<br>etc. | 7A 250V AC<br>1/6HP 125, 250V AC<br>3A 30V DC                                                                         | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |
|                                      | 3c           | E43028               | 7A 250V AC<br>1/6HP 125, 250V AC<br>3A 30V DC                                                                            | LR26550<br>etc. | 7A 250V AC<br>1/6HP 125, 250V AC<br>3A 30V DC                                                                         | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |
|                                      | 4c           | E43028               | 5A 250V AC<br>1/10HP 125, 250V AC<br>3A 30V DC                                                                           | LR26550<br>etc. | 5A 250V AC<br>1/10HP 125, 250V AC<br>3A 30V DC                                                                        | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |
|                                      | 4c twin      | E43028               | 3A 250V AC<br>3A 30V DC                                                                                                  | LR42758         | 3A 250V AC<br>3A 30V DC                                                                                               | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |
| HK (AHK)                             | 1c           | E43028               | 10A 250V AC<br>1/2HP 125V AC<br>10A 30V DC                                                                               | —               | Certified by C-UL                                                                                                     | —                    | —                                                                                                                       | —                                      | —                                                             | B0401<br>13461027    | 15A 125V AC<br>(cosφ=1.0)<br>15A 30V DC (0ms)                              |
|                                      | 2c           | E43028               | 10A 250V AC<br>1/2HP 125V AC<br>10A 30V DC                                                                               | —               | Certified by C-UL                                                                                                     | —                    | —                                                                                                                       | —                                      | —                                                             | B0401<br>13461027    | 10A 125V AC<br>(cosφ=1.0)<br>10A 30V DC (0ms)                              |
| HL                                   | 1c           | E43028               | 15A 250V AC<br>1/3HP 125, 250V AC<br>10A 30V DC                                                                          | LR26550<br>etc. | 15A 250V AC<br>1/3HP 125, 250V AC<br>10A 30V DC                                                                       | —                    | —                                                                                                                       | UL<br>E43149<br>CSA<br>LR26550<br>etc. | UL<br>NO-->TV-5<br>NC-->TV-2<br>CSA<br>NO-->TV-5<br>NC-->TV-3 | —                    | —                                                                          |
|                                      | 2c           | E43028               | 10A 250V AC<br>1/3HP 125, 250V AC<br>10A 30V DC                                                                          | LR26550<br>etc. | 10A 250V AC<br>1/3HP 125, 250V AC<br>10A 30V DC                                                                       | —                    | —                                                                                                                       | UL<br>E43149<br>CSA<br>LR26550<br>etc. | NO-->TV-4<br>NC-->TV-2                                        | —                    | —                                                                          |
| HP                                   |              | E43028               | 10A 250V AC<br>1/3HP 125, 250V AC<br>10A 30V DC                                                                          | LR26550<br>etc. | 10A 250V AC<br>1/3HP 125, 250V AC<br>10A 30V DC                                                                       | 4811,<br>205<br>3753 | 2c: 10A 250V to<br>(cosφ=1.0)<br>7.5A 250V to<br>(cosφ=0.4)<br>3c: 10A 250V to<br>(cosφ=1.0)<br>4c type is not approved | —                                      | —                                                             | —                    | —                                                                          |
| HG                                   | Single phase | E43028               | 3/4HP 125V AC<br>2HP 250V AC                                                                                             | LR26550<br>etc. | 3/4HP 125V AC<br>2HP 250V AC                                                                                          | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |
|                                      | Three phase  | E43028               | 2HP 125V AC<br>3HP 250V AC<br>20A 250V AC<br>(cosφ=0.75)                                                                 | LR26550<br>etc. | 2HP 125V AC<br>1HP 250V AC<br>20A 125V AC<br>(cosφ=0.75)<br>15A 250V AC<br>(cosφ=0.75)                                | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |
| HE                                   | 1a           | E43028               | 30A 277V AC<br>30A 30V DC<br>1.5HP 125V AC<br>3HP 250V AC                                                                | LR26550<br>etc. | 30A 277V AC<br>30A 30V DC<br>1.5HP 125V AC<br>3HP 250V AC                                                             | 90516                | 30A 250V AC<br>(cosφ=1.0)<br>30A 30V DC<br>30A 250V AC<br>(cosφ=0.4)<br>5A 110V DC (0ms)                                | UL<br>E43028                           | TV-15                                                         | B 02 09<br>13461 234 | 30A 250V AC<br>(cosφ=1.0)<br>30A 250V AC<br>(cosφ=0.4)<br>8A 110V DC (0ms) |
|                                      | 2a           | E43028               | 25A 277V AC<br>25A 30V DC<br>1HP 125V AC<br>2HP 250V AC                                                                  | LR26550<br>etc. | 25A 277V AC<br>25A 30V DC<br>1HP 125V AC<br>2HP 250V AC                                                               | 90516                | 25A 250V AC<br>(cosφ=1.0)<br>25A 250V AC<br>(cosφ=0.4)<br>5A 110V DC (0ms)                                              | UL<br>E43028                           | TV-10                                                         | B 02 09<br>13461 234 | 25A 250V AC<br>(cosφ=1.0)<br>25A 250V AC<br>(cosφ=0.4)<br>8A 110V DC (0ms) |
| JH                                   | 1a           | E43028               | 1HP 125V AC<br>2HP 250V AC<br>30A 277V AC<br>30A 30V DC                                                                  | LR26550<br>etc. | 1HP 125V AC<br>2HP 250/277V AC<br>30A 277V AC<br>30A 30V DC<br>TV-10                                                  | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |
|                                      | 2a           | E43028               | 1HP 125V AC<br>2HP 250V AC<br>20A 277V AC<br>20A 30V DC                                                                  | LR26550<br>etc. | 1HP 125V AC<br>2HP 227V AC<br>20A 277V AC<br>20A 30V DC<br>TV-8                                                       | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |
|                                      | 2a1b         | E43028               | (N.O. side)<br>1/2HP 250V AC<br>10A 277V AC<br>15A 125V AC<br>(N. C. side)<br>1/4HP 250V AC<br>10A 277V AC<br>5A 125V AC | LR26550<br>etc. | (N.O. side)<br>1/2HP 277V AC<br>15A 277V AC<br>15A 30V DC<br>(N. C. side)<br>1/4HP 277V AC<br>5A 277V AC<br>5A 30V DC | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |
|                                      | 3a           | E43028               | 1/2HP 250V AC<br>10A 277V AC<br>15A 125V AC                                                                              | LR26550<br>etc. | 1/2HP 277V AC<br>15A 277V AC<br>15A 30V DC                                                                            | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |
| EP (AEP)                             | 60A          | E43149               | 60A 400V DC<br>60A 277V AC                                                                                               | —               | —                                                                                                                     | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |
|                                      | 150A         | E43149               | 150A 400V DC<br>150A 277V AC                                                                                             | —               | —                                                                                                                     | —                    | —                                                                                                                       | —                                      | —                                                             | —                    | —                                                                          |

## Standards Chart

[illegible]

# Standards Chart

## PhotoMOS Relays

### • PhotoMOS (GU SOP type)

| Item  |          | UL/C-UL (Recognized)       |                                                                                                                             | CSA (Certified)            |                                                                                                                             | Remarks                                                        |
|-------|----------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
|       |          | File No.<br>(Standard No.) | Contact rating                                                                                                              | File No.<br>(Standard No.) | Contact rating                                                                                                              |                                                                |
| AC/DC | AQY212GS | E191218<br>(UL1577)        | 1.0A 60V AC (peak)<br>1.0A 60V DC                                                                                           | C-UL approved              | —                                                                                                                           | VDE approved<br>(Nr.40003143)                                  |
|       | AQY212S  | E43149 (UL508)             | 0.5A 60V AC (peak)<br>0.5A 60V DC                                                                                           | Certified by C-UL          | 0.5A 60V AC (peak)<br>0.5A 60V DC                                                                                           | BSI approved<br>(EN60065, EN41003, EN60950)<br>8002, 8003      |
|       | AQY210S  |                            | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       |                            | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       | BSI approved<br>(EN60065, EN41003, EN60950)<br>8002, 8003      |
|       | AQY214S  |                            | 0.1A 400V AC (peak)<br>0.1A 400V DC                                                                                         |                            | 0.1A 400V AC (peak)<br>0.1A 400V DC                                                                                         |                                                                |
|       | AQV212S  |                            | 0.35A 60V AC (peak) A connection<br>0.35A 60V DC A connection<br>0.5A 60V DC B connection<br>0.7A 60V DC C connection       |                            | 0.35A 60V AC (peak) A connection<br>0.35A 60V DC A connection<br>0.5A 60V DC B connection<br>0.7A 60V DC C connection       | BSI approved<br>(EN60065, EN41003, EN60950)<br>8002, 8003      |
|       | AQV215S  |                            | 0.3A 100V AC (peak) A connection<br>0.3A 100V DC A connection<br>0.4A 100V DC B connection<br>0.56A 100V DC C connection    |                            | 0.3A 100V AC (peak) A connection<br>0.3A 100V DC A connection<br>0.4A 100V DC B connection<br>0.56A 100V DC C connection    |                                                                |
|       | AQV217S  |                            | 0.16A 200V AC (peak) A connection<br>0.16A 200V DC A connection<br>0.2A 200V DC B connection<br>0.28A 200V DC C connection  |                            | 0.16A 200V AC (peak) A connection<br>0.16A 200V DC A connection<br>0.2A 200V DC B connection<br>0.28A 200V DC C connection  |                                                                |
|       | AQV210S  |                            | 0.12A 350V AC (peak) A connection<br>0.12A 350V DC A connection<br>0.13A 350V DC B connection<br>0.15A 350V DC C connection |                            | 0.12A 350V AC (peak) A connection<br>0.12A 350V DC A connection<br>0.13A 350V DC B connection<br>0.15A 350V DC C connection |                                                                |
|       | AQV214S  |                            | 0.10A 400V AC (peak) A connection<br>0.10A 400V DC A connection<br>0.11A 400V DC B connection<br>0.12A 400V DC C connection |                            | 0.10A 400V AC (peak) A connection<br>0.10A 400V DC A connection<br>0.11A 400V DC B connection<br>0.12A 400V DC C connection |                                                                |
|       | AQV216S  |                            | 0.04A 400V AC (peak) A connection<br>0.04A 600V DC A connection<br>0.05A 600V DC B connection<br>0.06A 600V DC C connection |                            | 0.04A 400V AC (peak) A connection<br>0.04A 600V DC A connection<br>0.05A 600V DC B connection<br>0.06A 600V DC C connection |                                                                |
|       | AQY410S  |                            | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       |                            | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       |                                                                |
|       | AQY414S  |                            | 0.1A 400V AC (peak)<br>0.1A 400V DC                                                                                         |                            | 0.1A 400V AC (peak)<br>0.1A 400V DC                                                                                         | BSI approved<br>(EN60065, EN41003, EN60950)<br>8002, 8003      |
|       | AQV414S  |                            | 0.10A 400V AC (peak) A connection<br>0.10A 400V DC A connection<br>0.11A 400V DC B connection<br>0.12A 400V DC C connection |                            | 0.10A 400V AC (peak) A connection<br>0.10A 400V DC A connection<br>0.11A 400V DC B connection<br>0.12A 400V DC C connection | BSI approved<br>(EN60065, EN41003, EN60950)<br>8002, 8003      |
|       | AQW210S  |                            | 1-pole 0.13A 350V AC (peak)<br>0.13A 350V DC<br>2-poles 0.1A 350V AC (peak)<br>0.1A 350V DC                                 |                            | 1-pole 0.13A 350V AC (peak)<br>0.13A 350V DC<br>2-poles 0.1A 350V AC (peak)<br>0.1A 350V DC                                 |                                                                |
|       | AQW214S  |                            | 1-pole 0.1A 400V AC (peak)<br>0.1A 400V DC<br>2-poles 0.08A 400V AC (peak)<br>0.08A 400V DC                                 |                            | 1-pole 0.1A 400V AC (peak)<br>0.1A 400V DC<br>2-poles 0.08A 400V AC (peak)<br>0.08A 400V DC                                 |                                                                |
|       | AQW610S  |                            | 0.1A 350V AC (peak)<br>0.1A 350V DC                                                                                         |                            | 0.1A 350V AC (peak)<br>0.1A 350V DC                                                                                         |                                                                |
|       | AQY210KS | E191218<br>(UL1577)        | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       | Certified by C-UL          |                                                                                                                             | BSI approved<br>(EN60065, EN60950, EN41003,<br>EN8002, EN8003) |
|       | AQY210LS | E43149<br>(UL508)          | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       | Certified by C-UL          | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       |                                                                |

### • PhotoMOS (RF SOP type)

| Item  |           | UL/C-UL (Recognized)       |                                                                                                                             | CSA (Certified)            |                                                                                                                             | Remarks |
|-------|-----------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------|
|       |           | File No.<br>(Standard No.) | Contact rating                                                                                                              | File No.<br>(Standard No.) | Contact rating                                                                                                              |         |
| AC/DC | AQY221N1S | E191218<br>(UL1577)        | 0.12A 40V AC (peak)<br>0.12A 40V DC                                                                                         | Pending                    | 0.12A 40V AC (peak)<br>0.12A 40V DC                                                                                         |         |
|       | AQV227NS  | E43149<br>(UL508)          | 0.05A 200V AC (peak) A connection<br>0.05A 200V DC A connection<br>0.06A 200V DC B connection<br>0.08A 200V DC C connection | Certified by C-UL          | 0.05A 200V AC (peak) A connection<br>0.05A 200V DC A connection<br>0.06A 200V DC B connection<br>0.08A 200V DC C connection |         |
|       | AQV224NS  |                            | 0.04A 400V AC (peak) A connection<br>0.04A 400V DC A connection<br>0.05A 400V DC B connection<br>0.06A 400V DC C connection |                            | 0.04A 400V AC (peak) A connection<br>0.04A 400V DC A connection<br>0.05A 400V DC B connection<br>0.06A 400V DC C connection |         |
|       | AQW227NS  |                            | 1-pole 0.05A 200V AC (peak)<br>0.05A 200V DC<br>2-poles 0.04A 200V AC (peak)<br>0.04A 200V DC                               |                            | 1-pole 0.05A 200V<br>AC (peak) 0.05A 200V DC<br>2-poles 0.04A 200V<br>AC (peak) 0.04A 200V DC                               |         |
|       | AQS225S   |                            | 0.05A 80V AC (peak)<br>0.05A 80V DC                                                                                         |                            | 0.05A 80V AC (peak)<br>0.05A 80V DC                                                                                         |         |

# Standards Chart

## • PhotoMOS (GU type)

| Item  |             | UL/C-UL (Recognized)       |                                                                                                                             | CSA (Certified)            |                                                                                                                             | Remarks                                                         |
|-------|-------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
|       |             | File No.<br>(Standard No.) | Contact rating                                                                                                              | File No.<br>(Standard No.) | Contact rating                                                                                                              |                                                                 |
| AC/DC | AQY212GH    | E191218<br>(UL1577)        | 1.1A 60V AC (peak)<br>1.1A 60V DC                                                                                           | C-UL approved              | —                                                                                                                           | VDE approved<br>(Nr.40003143)                                   |
|       | AQV212(A)   | E43149<br>(UL508)          | 0.55A 60V AC (peak) A connection<br>0.55A 60V DC A connection<br>0.65A 60V DC B connection<br>0.8A 60V DC C connection      | Certified by C-UL          | 0.55A 60V AC (peak) A connection<br>0.55A 60V DC A connection<br>0.65A 60V DC B connection<br>0.8A 60V DC C connection      | BSI approved<br>(EN60065, EN41003, EN60950)<br>CR No.7395, 7396 |
|       | AQV215(A)   |                            | 0.32A 100V AC (peak) A connection<br>0.32A 100V DC A connection<br>0.42A 100V DC B connection<br>0.60A 100V DC C connection |                            | 0.32A 100V AC (peak) A connection<br>0.32A 100V DC A connection<br>0.42A 100V DC B connection<br>0.60A 100V DC C connection |                                                                 |
|       | AQV217(A)   |                            | 0.18A 200V AC (peak) A connection<br>0.18A 200V DC A connection<br>0.22A 200V DC B connection<br>0.30A 200V DC C connection |                            | 0.18A 200V AC (peak) A connection<br>0.18A 200V DC A connection<br>0.22A 200V DC B connection<br>0.30A 200V DC C connection |                                                                 |
|       | AQV210(A)   |                            | 0.13A 350V AC (peak) A connection<br>0.13A 350V DC A connection<br>0.15A 350V DC B connection<br>0.17A 350V DC C connection |                            | 0.13A 350V AC (peak) A connection<br>0.13A 350V DC A connection<br>0.15A 350V DC B connection<br>0.17A 350V DC C connection |                                                                 |
|       | AQV214(A)   |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection |                                                                 |
|       | AQV214H(A)  |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection |                                                                 |
|       | AQV216(A)   |                            | 0.05A 400V AC (peak) A connection<br>0.05A 600V DC A connection<br>0.06A 600V DC B connection<br>0.08A 600V DC C connection |                            | 0.05A 400V AC (peak) A connection<br>0.05A 600V DC A connection<br>0.06A 600V DC B connection<br>0.08A 600V DC C connection |                                                                 |
|       | AQV414(A)   |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection |                                                                 |
|       | AQW212(A)   |                            | 1-pole 0.6A 60V AC (peak)<br>0.6A 60V DC<br>2-poles 0.5A 60V AC (peak)<br>0.5A 60V DC                                       |                            | 1-pole 0.6A 60V AC (peak)<br>0.6A 60V DC<br>2-poles 0.5A 60V AC (peak)<br>0.5A 60V DC                                       |                                                                 |
|       | AQW215(A)   |                            | 1-pole 0.35A 100V AC (peak)<br>0.35A 100V DC<br>2-poles 0.3A 100V AC (peak)<br>0.3A 100V DC                                 |                            | 1-pole 0.35A 100V AC (peak)<br>0.35A 100V DC<br>2-poles 0.3A 100V AC (peak)<br>0.3A 100V DC                                 |                                                                 |
|       | AQW217(A)   |                            | 1-pole 0.2A 200V AC (peak)<br>0.2A 200V DC<br>2-poles 0.16A 200V AC (peak)<br>0.16A 200V DC                                 |                            | 1-pole 0.2A 200V AC (peak)<br>0.2A 200V DC<br>2-poles 0.16A 200V AC (peak)<br>0.16A 200V DC                                 |                                                                 |
|       | AQW210(A)   |                            | 1-pole 0.14A 350V AC (peak)<br>0.14A 350V DC<br>2-poles 0.12A 350V AC (peak)<br>0.12A 350V DC                               |                            | 1-pole 0.14A 350V AC (peak)<br>0.14A 350V DC<br>2-poles 0.12A 350V AC (peak)<br>0.12A 350V DC                               |                                                                 |
|       | AQW214(A)   |                            | 1-pole 0.13A 400V AC (peak)<br>0.13A 400V DC<br>2-poles 0.1A 400V AC (peak)<br>0.1A 400V DC                                 |                            | 1-pole 0.13A 400V AC (peak)<br>0.13A 400V DC<br>2-poles 0.1A 400V AC (peak)<br>0.1A 400V DC                                 |                                                                 |
|       | AQW216(A)   |                            | 1-pole 0.05A 400V AC (peak)<br>0.05A 600V DC<br>2-poles 0.04A 400V AC (peak)<br>0.04A 600V DC                               |                            | 1-pole 0.05A 400V AC (peak)<br>0.05A 600V DC<br>2-poles 0.04A 400V AC (peak)<br>0.04A 600V DC                               |                                                                 |
|       | AQW614(A)   |                            | 1-pole 0.13A 400V AC (peak)<br>0.13A 400V DC<br>2-poles 0.1A 400V AC (peak)<br>0.1A 400V DC                                 |                            | 1-pole 0.13A 400V AC (peak)<br>0.13A 400V DC<br>2-poles 0.1A 400V AC (peak)<br>0.1A 400V DC                                 |                                                                 |
|       | AQW414(A)   |                            | 1-pole 0.13A 400V AC (peak)<br>0.13A 400V DC<br>2-poles 0.1A 400V AC (peak)<br>0.1A 400V DC                                 |                            | 1-pole 0.13A 400V AC (peak)<br>0.13A 400V DC<br>2-poles 0.1A 400V AC (peak)<br>0.1A 400V DC                                 |                                                                 |
|       | AQV112KL    | E191218<br>(UL1577)        | 0.5A 60V DC                                                                                                                 | Certified by C-UL          | —                                                                                                                           | VDE approved<br>(Nr.40003136)                                   |
|       | AQY210HL(A) | E43149<br>(UL508)          | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       | Certified by C-UL          | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       |                                                                 |
|       | AQW210HL(A) | E43149<br>(UL508)          | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       | Certified by C-UL          | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       |                                                                 |

## • PhotoMOS (HS type)

| Item  |           | UL/C-UL (Recognized)       |                                                                                                                         | CSA (Certified)            |                                                                                                                          | Remarks |
|-------|-----------|----------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------|---------|
|       |           | File No.<br>(Standard No.) | Contact rating                                                                                                          | File No.<br>(Standard No.) | Contact rating                                                                                                           |         |
| AC/DC | AQV234(A) | E43149<br>(UL508)          | 0.12A400V AC (peak) A connection<br>0.12A400V DC A connection<br>0.13A400V DC B connection<br>0.15A400V DC C connection | Certified by C-UL          | 0.12A 400V AC (peak) A connection<br>0.12A400V DC A connection<br>0.13A400V DC B connection<br>0.15A400V DC C connection |         |

# Standards Chart

## • PhotoMOS (GE type)

| Item  |             | UL/C-UL (Recognized)       |                                                                                                                             | CSA (Certified)            |                                                                                                                             | Remarks                                                         |
|-------|-------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
|       |             | File No.<br>(Standard No.) | Contact rating                                                                                                              | File No.<br>(Standard No.) | Contact rating                                                                                                              |                                                                 |
| AC/DC | AQY211EH(A) | E43149<br>(UL508)          | 1A 30V AC (peak)<br>1A 30V DC                                                                                               | Certified by C-UL          | 1A 30V AC (peak)<br>1A 30V DC                                                                                               | BSI approved<br>(EN60065, EN41003, EN60950)<br>7395, 7396       |
|       | AQY212EH(A) |                            | 0.55A 60V AC (peak)<br>0.55A 60V DC                                                                                         |                            | 0.55A 60V AC (peak)<br>0.55A 60V DC                                                                                         |                                                                 |
|       | AQY210EH(A) |                            | 0.13A 350V AC (peak)<br>0.13A 350V DC                                                                                       |                            | 0.13A 350V AC (peak)<br>0.13A 350V DC                                                                                       |                                                                 |
|       | AQY214EH(A) |                            | 0.12A 400V AC (peak)<br>0.12A 400V DC                                                                                       |                            | 0.12A 400V AC (peak)<br>0.12A 400V DC                                                                                       |                                                                 |
|       | AQY216EH(A) |                            | 0.05A 400V AC (peak)<br>0.05A 600V DC                                                                                       |                            | 0.05A 200V AC (peak)<br>0.05A 200V DC                                                                                       |                                                                 |
|       | AQV210E(A)  |                            | 0.13A 350V AC (peak) A connection<br>0.13A 350V DC A connection<br>0.15A 350V DC B connection<br>0.17A 350V DC C connection |                            | 0.13A 350V AC (peak) A connection<br>0.13A 350V DC A connection<br>0.15A 350V DC B connection<br>0.17A 350V DC C connection | BSI approved<br>(EN60065, EN41003, EN60950)<br>CR No.7395, 7396 |
|       | AQV210EH(A) |                            | 0.13A 350V AC (peak) A connection<br>0.13A 350V DC A connection<br>0.15A 350V DC B connection<br>0.17A 350V DC C connection |                            | 0.13A 350V AC (peak) A connection<br>0.13A 350V DC A connection<br>0.15A 350V DC B connection<br>0.17A 350V DC C connection |                                                                 |
|       | AQV214E(A)  |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection |                                                                 |
|       | AQV214EH(A) |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection | BSI approved<br>(EN60065, EN41003, EN60950)<br>CR No.7395, 7396 |
|       | AQY410EH(A) |                            | 0.13A 350V AC (peak)<br>0.13A 350V DC                                                                                       |                            | 0.13A 350V AC (peak)<br>0.13A 350V DC                                                                                       |                                                                 |
|       | AQY414EH    |                            | 0.12A 400V AC (peak)<br>0.12A 400V DC                                                                                       |                            | 0.12A 400V AC (peak)<br>0.12A 400V DC                                                                                       | BSI approved<br>(EN60065, EN41003, EN60950)<br>7395, 7396       |
|       | AQV414E(A)  |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection | BSI approved<br>(EN41003, EN60950)<br>CR No.7395, 7396          |
|       | AQV410EH(A) |                            | 0.13A350V AC (peak)<br>0.13A350V DC                                                                                         |                            | 0.13A350V AC (peak)<br>0.13A350V DC                                                                                         |                                                                 |
|       | AQV414EH(A) |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection |                            | 0.12A 400V AC (peak) A connection<br>0.12A 400V DC A connection<br>0.13A 400V DC B connection<br>0.15A 400V DC C connection |                                                                 |
|       | AQW212EH(A) |                            | 1-pole 0.6A 60V AC (peak)<br>0.6A 60V DC<br>2-poles 0.5A 60V AC (peak)<br>0.5A 60V DC                                       |                            | 1-pole 0.6A 60V AC (peak)<br>0.6A 60V DC<br>2-poles 0.5A 60V AC (peak)<br>0.5A 60V DC                                       | BSI approved<br>(EN60065, EN41003, EN60950)<br>7395, 7396       |
|       | AQW210EH(A) |                            | 1-pole 0.14A 350V AC (peak)<br>0.14A 350V DC<br>2-poles 0.12A 350V AC (peak)<br>0.12A 350V DC                               |                            | 1-pole 0.14A 350V AC (peak)<br>0.14A 350V DC<br>2-poles 0.12A 350V AC (peak)<br>0.12A 350V DC                               |                                                                 |
|       | AQW214EH(A) |                            | 1-pole 0.13A 400V AC (peak)<br>0.13A 400V DC<br>2-poles 0.1A400V AC (peak)<br>0.1A 400V DC                                  |                            | 1-pole 0.13A 400V AC (peak)<br>0.13A 400V DC<br>2-poles 0.1A400V AC (peak)<br>0.1A 400V DC                                  |                                                                 |
|       | AQW216EH(A) |                            | 1-pole 0.05A 400V AC (peak)<br>0.05A 600V DC<br>2-poles 0.04A 600V AC (peak)<br>0.04A 600V DC                               |                            | 1-pole 0.05A 400V AC (peak)<br>0.05A 600V DC<br>2-poles 0.04A 600V AC (peak)<br>0.04A 600V DC                               |                                                                 |
|       | AQW610EH(A) |                            | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       |                            | 0.12A 350V AC (peak)<br>0.12A 350V DC                                                                                       |                                                                 |
|       | AQW614EH(A) |                            | 1-pole 0.13A 400V AC (peak)<br>0.13A 400V DC<br>2-poles 0.1A 400V AC (peak)<br>0.1A 400V DC                                 |                            | 1-pole 0.13A 400V AC (peak)<br>0.13A 400V DC<br>2-poles 0.1A 400V AC (peak)<br>0.1A 400V DC                                 |                                                                 |
|       | AQW414EH(A) |                            | 1-pole 0.13A 400V AC (peak)<br>0.13A 400V DC<br>2-poles 0.1A 400V AC (peak)<br>0.1A 400V DC                                 |                            | 1-pole 0.13A 400V AC (peak)<br>0.13A 400V DC<br>2-poles 0.1A 400V AC (peak)<br>0.1A 400V DC                                 |                                                                 |

## • PhotoMOS (HF type)

| Item  |           | UL/C-UL (Recognized)       |                                                                                                                             | CSA (Certified)            |                                                                                                                             | Remarks |
|-------|-----------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------|
|       |           | File No.<br>(Standard No.) | Contact rating                                                                                                              | File No.<br>(Standard No.) | Contact rating                                                                                                              |         |
| DC    | AQV101(A) | E43149<br>(UL508)          | 0.7A 40V DC                                                                                                                 | Certified by C-UL          | 0.7A 40V DC                                                                                                                 |         |
|       | AQV102(A) |                            | 0.6A 60V DC                                                                                                                 |                            | 0.6A 60V DC                                                                                                                 |         |
|       | AQV103(A) |                            | 0.3A 250V DC                                                                                                                |                            | 0.3A 250V DC                                                                                                                |         |
|       | AQV104(A) |                            | 0.18A 400V DC                                                                                                               |                            | 0.18A 400V DC                                                                                                               |         |
| AC/DC | AQV201(A) | E43149<br>(UL508)          | 0.5A 40V AC (peak) A connection<br>0.5A 40V DC A connection<br>0.7A 40V DC B connection<br>1.0A 40V DC C connection         | Certified by C-UL          | 0.5A 40V AC (peak) A connection<br>0.5A 40V DC A connection<br>0.7A 40V DC B connection<br>1.0A 40V DC C connection         |         |
|       | AQV202(A) |                            | 0.4A 60V AC (peak) A connection<br>0.4A 60V DC A connection<br>0.6A 60V DC B connection<br>0.8A 60V DC C connection         |                            | 0.4A 60V AC (peak) A connection<br>0.4A 60V DC A connection<br>0.6A 60V DC B connection<br>0.8A 60V DC C connection         |         |
|       | AQV203(A) |                            | 0.2A 250V AC (peak) A connection<br>0.2A 250V DC A connection<br>0.3A 250V DC B connection<br>0.4A 250V DC C connection     |                            | 0.2A 250V AC (peak) A connection<br>0.2A 250V DC A connection<br>0.3A 250V DC B connection<br>0.4A 250V DC C connection     |         |
|       | AQV204(A) |                            | 0.15A 400V AC (peak) A connection<br>0.15A 400V DC A connection<br>0.18A 400V DC B connection<br>0.25A 400V DC C connection |                            | 0.15A 400V AC (peak) A connection<br>0.15A 400V DC A connection<br>0.18A 400V DC B connection<br>0.25A 400V DC C connection |         |
|       |           |                            |                                                                                                                             |                            |                                                                                                                             |         |

# Standards Chart

## • PhotoMOS (HE type)

| Item  |            | UL/C-UL (Recognized)       |                                                                                                                              | CSA (Certified)            |                                                                                                                              | Remarks                                                         |
|-------|------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
|       |            | File No.<br>(Standard No.) | Contact rating                                                                                                               | File No.<br>(Standard No.) | Contact rating                                                                                                               |                                                                 |
| AC/DC | AQV252G    | E191218<br>(UL1577)        | 5.0A 60V AC (peak)<br>5.0A 60V DC                                                                                            | Certified by C-UL          | —                                                                                                                            | VDE approved<br>(Nr.40003143)                                   |
|       | AQV251(A)  | E43149<br>(UL508)          | 0.5A 40V AC (peak) A connection<br>0.5A 40V DC A connection<br>0.7A 40V DC B connection<br>1.0A 40V DC C connection          | Certified by C-UL          | 0.5A 40V AC (peak) A connection<br>0.5A 40V DC A connection<br>0.7A 40V DC B connection<br>1.0A 40V DC C connection          | BSI approved<br>(EN60065, EN41003, EN60950)<br>CR No.7395, 7396 |
|       | AQV252(A)  |                            | 0.4A 60V AC (peak) A connection<br>0.4A 60V DC A connection<br>0.6A 60V DC B connection<br>0.8A 60V DC C connection          |                            | 0.4A 60V AC (peak) A connection<br>0.4A 60V DC A connection<br>0.6A 60V DC B connection<br>0.8A 60V DC C connection          |                                                                 |
|       | AQV255(A)  |                            | 0.35A 100V AC (peak) A connection<br>0.35A 100V DC A connection<br>0.45A 100V DC B connection<br>0.70A 100V DC C connection  |                            | 0.35A 100V AC (peak) A connection<br>0.35A 100V DC A connection<br>0.45A 100V DC B connection<br>0.70A 100V DC C connection  |                                                                 |
|       | AQV257(A)  |                            | 0.25A 200V AC (peak) A connection<br>0.25A 200V DC A connection<br>0.35A 200V DC B connection<br>0.5A 200V DC C connection   |                            | 0.25A 200V AC (peak) A connection<br>0.25A 200V DC A connection<br>0.35A 200V DC B connection<br>0.5A 200V DC C connection   |                                                                 |
|       | AQV253(A)  |                            | 0.2A 250V AC (peak) A connection<br>0.2A 250V DC A connection<br>0.3A 250V DC B connection<br>0.4A 250V DC C connection      |                            | 0.2A 250V AC (peak) A connection<br>0.2A 250V DC A connection<br>0.3A 250V DC B connection<br>0.4A 250V DC C connection      |                                                                 |
|       | AQV253H(A) |                            | 0.2A 250V AC (peak) A connection<br>0.2A 250V DC A connection<br>0.3A 250V DC B connection<br>0.4A 250V DC C connection      |                            | 0.2A 250V AC (peak) A connection<br>0.2A 250V DC A connection<br>0.3A 250V DC B connection<br>0.4A 250V DC C connection      |                                                                 |
|       | AQV254(A)  |                            | 0.15A 400V AC (peak) A connection<br>0.15A 400V DC A connection<br>0.18A 400V DC B connection<br>0.25A 400V DC C connection  |                            | 0.15A 400V AC (peak) A connection<br>0.15A 400V DC A connection<br>0.18A 400V DC B connection<br>0.25A 400V DC C connection  | BSI approved<br>(EN60065, EN41003, EN60950)<br>CR No.7395, 7396 |
|       | AQV254H(A) |                            | 0.15A 400V AC (peak) A connection<br>0.15A 400V DC A connection<br>0.18A 400V DC B connection<br>0.25A 400V DC C connection  |                            | 0.15A 400V AC (peak) A connection<br>0.15A 400V DC A connection<br>0.18A 400V DC B connection<br>0.25A 400V DC C connection  |                                                                 |
|       | AQV259(A)  |                            | 0.03A 400V AC (peak) A connection<br>0.03A 600V DC A connection<br>0.04A 600V DC B connection<br>0.05A 600V DC C connection  |                            | 0.03A 400V AC (peak) A connection<br>0.03A 600V DC A connection<br>0.04A 600V DC B connection<br>0.05A 600V DC C connection  |                                                                 |
|       | AQV258(A)  |                            | 0.02A 400V AC (peak) A connection<br>0.02A 600V DC A connection<br>0.025A 600V DC B connection<br>0.04A 600V DC C connection |                            | 0.02A 400V AC (peak) A connection<br>0.02A 600V DC A connection<br>0.025A 600V DC B connection<br>0.04A 600V DC C connection |                                                                 |
|       | AQV453(A)  |                            | 0.2A 250V AC (peak) A connection<br>0.2A 250V DC A connection<br>0.3A 250V DC B connection<br>0.4A 250V DC C connection      |                            | 0.2A 250V AC (peak) A connection<br>0.2A 250V DC A connection<br>0.3A 250V DC B connection<br>0.4A 250V DC C connection      |                                                                 |
|       | AQV454(A)  |                            | 0.15A 400V AC (peak) A connection<br>0.15A 400V DC A connection<br>0.18A 400V DC B connection<br>0.25A 400V DC C connection  |                            | 0.15A 400V AC (peak) A connection<br>0.15A 400V DC A connection<br>0.18A 400V DC B connection<br>0.25A 400V DC C connection  |                                                                 |
|       | AQV454H(A) |                            | 0.15A 400V AC (peak) A connection<br>0.15A 400V DC A connection<br>0.18A 400V DC B connection<br>0.25A 400V DC C connection  |                            | 0.15A 400V AC (peak) A connection<br>0.15A 400V DC A connection<br>0.18A 400V DC B connection<br>0.25A 400V DC C connection  | BSI approved<br>(EN60065, EN41003, EN60950)<br>7395, 7396       |
|       | AQW254(A)  |                            | 1-pole 0.16A 400V AC (peak)<br>0.16A 400V DC<br>2-poles 0.12A 400V AC (peak)<br>0.12A 400V DC                                |                            | 1-pole 0.16A 400V AC (peak)<br>0.16A 400V DC<br>2-poles 0.12A 400V AC (peak)<br>0.12A 400V DC                                |                                                                 |
|       | AQW654(A)  |                            | 1-pole 0.16A 400V AC (peak)<br>0.16A 400V DC<br>2-poles 0.12A 400V AC (peak)<br>0.12A 400V DC                                |                            | 1-pole 0.16A 400V AC (peak)<br>0.16A 400V DC<br>2-poles 0.12A 400V AC (peak)<br>0.12A 400V DC                                |                                                                 |
|       | AQW454(A)  |                            | 1-pole 0.16A 400V AC (peak)<br>0.16A 400V DC<br>2-poles 0.12A 400V AC (peak)<br>0.12A 400V DC                                |                            | 1-pole 0.16A 400V AC (peak)<br>0.16A 400V DC<br>2-poles 0.12A 400V AC (peak)<br>0.12A 400V DC                                |                                                                 |

## • PhotoMOS (PD type)

| Item  |           | UL/C-UL (Recognized)       |                                     | CSA (Certified)            |                                     | Remarks |
|-------|-----------|----------------------------|-------------------------------------|----------------------------|-------------------------------------|---------|
|       |           | File No.<br>(Standard No.) | Contact rating                      | File No.<br>(Standard No.) | Contact rating                      |         |
| AC/DC | AQY272(A) | E43149<br>(UL508)          | 2A60V AC (peak)<br>2A60V DC         | Certified by C-UL          | 2A60V AC (peak)<br>2A60V DC         |         |
|       | AQY277(A) |                            | 1.3A100V AC (peak)<br>1.3A100V DC   |                            | 1.3A100V AC (peak)<br>1.3A100V DC   |         |
|       | AQY275(A) |                            | 0.65A200V AC (peak)<br>0.65A200V DC |                            | 0.65A200V AC (peak)<br>0.65A200V DC |         |
|       | AQY274(A) |                            | 0.35A400V AC (peak)<br>0.35A400V DC |                            | 0.35A400V AC (peak)<br>0.35A400V DC |         |

# Standards Chart

## • PhotoMOS (RF type)

| Item  |            | UL/C-UL (Recognized)       |                                                                                                                             | CSA (Certified)            |                                                                                                                             | Remarks |
|-------|------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------|
|       |            | File No.<br>(Standard No.) | Contact rating                                                                                                              | File No.<br>(Standard No.) | Contact rating                                                                                                              |         |
| AC/DC | AQV221(A)  | E43149<br>(UL508)          | 0.08A 40V AC (peak) A connection<br>0.08A 40V DC A connection<br>0.08A 40V DC B connection<br>0.12A 40V DC C connection     | Certified by C-UL          | 0.08A 40V AC (peak) A connection<br>0.08A 40V DC A connection<br>0.09A 40V DC B connection<br>0.12A 40V DC C connection     |         |
|       | AQV225(A)  |                            | 0.05A 80V AC (peak) A connection<br>0.05A 80V DC A connection<br>0.06A 80V DC B connection<br>0.075A 80V DC C connection    |                            | 0.05A 80V AC (peak) A connection<br>0.05A 80V DC A connection<br>0.06A 80V DC B connection<br>0.075A 80V DC C connection    |         |
|       | AQV221N(A) |                            | 0.15A 40V AC (peak) A connection<br>0.15A 40V DC A connection<br>0.18A 40V DC B connection<br>0.25A 40V DC C connection     |                            | 0.15A 40V AC (peak) A connection<br>0.15A 40V DC A connection<br>0.18A 40V DC B connection<br>0.25A 40V DC C connection     |         |
|       | AQV227N(A) |                            | 0.07A 200V AC (peak) A connection<br>0.07A 200V DC A connection<br>0.08A 200V DC B connection<br>0.10A 200V DC C connection |                            | 0.07A 200V AC (peak) A connection<br>0.07A 200V DC A connection<br>0.08A 200V DC B connection<br>0.10A 200V DC C connection |         |
|       | AQV224N(A) |                            | 0.05A 400V AC (peak) A connection<br>0.05A 400V DC A connection<br>0.06A 400V DC B connection<br>0.08A 400V DC C connection |                            | 0.05A 400V AC (peak) A connection<br>0.05A 400V DC A connection<br>0.06A 400V DC B connection<br>0.08A 400V DC C connection |         |
|       | AQW227N(A) |                            | 1-pole 0.07A 200V AC (peak)<br>0.07A 200V DC<br>2-poles 0.05A 200V AC (peak)<br>0.05A 200V DC                               |                            | 1-pole 0.07A 200V AC (peak)<br>0.07A 200V DC<br>2-poles 0.05A 200V AC (peak)<br>0.05A 200V DC                               |         |
|       | AQW224N(A) |                            | 1-pole 0.05A 400V AC (peak)<br>0.05A 400V DC<br>2-poles 0.04A 400V AC (peak)<br>0.04A 400V DC                               |                            | 1-pole 0.05A 400V AC (peak)<br>0.05A 400V DC<br>2-poles 0.04A 400V AC (peak)<br>0.04A 400V DC                               |         |

## • PhotoMOS (Power type)

| Item  |        | UL/C-UL (Recognized)       |                                     | CSA (Certified)            |                                     | Remarks |
|-------|--------|----------------------------|-------------------------------------|----------------------------|-------------------------------------|---------|
|       |        | File No.<br>(Standard No.) | Contact rating                      | File No.<br>(Standard No.) | Contact rating                      |         |
| AC/DC | AQZ202 | E43149 (UL508)             | 3.0A 60V AC (peak)<br>3.0A 60V DC   | Certified by C-UL          | 3.0A 60V AC (peak)<br>3.0A 60V DC   |         |
|       | AQZ205 |                            | 2.0A 100V AC (peak)<br>2.0A 100V DC |                            | 2.0A 100V AC (peak)<br>2.0A 100V DC |         |
|       | AQZ207 |                            | 1.0A 200V AC (peak)<br>1.0A 200V DC |                            | 1.0A 200V AC (peak)<br>1.0A 200V DC |         |
|       | AQZ204 |                            | 0.5A 400V AC (peak)<br>0.5A 400V DC |                            | 0.5A 400V AC (peak)<br>0.5A 400V DC |         |
| DC    | AQZ102 |                            | 4.0A 60V DC                         |                            | 4.0A 60V DC                         |         |
|       | AQZ105 |                            | 2.6A 100V DC                        |                            | 2.6A 100V DC                        |         |
|       | AQZ107 |                            | 1.3A 200V DC                        |                            | 1.3A 200V DC                        |         |
|       | AQZ104 |                            | 0.7A 400V DC                        |                            | 0.7A 400V DC                        |         |
| AC/DC | AQZ404 |                            | 0.5A 400V AC (peak)<br>0.5A 400V DC |                            | 0.5A 400V AC (peak)<br>0.5A 400V DC |         |

## • PhotoMOS (Power voltage sensitive type)

| Item  |         | UL/C-UL (Recognized)       |                                       | CSA (Certified)            |                                       | Remarks |
|-------|---------|----------------------------|---------------------------------------|----------------------------|---------------------------------------|---------|
|       |         | File No.<br>(Standard No.) | Contact rating                        | File No.<br>(Standard No.) | Contact rating                        |         |
| AC/DC | AQZ202D | E43149<br>(UL508)          | 2.7A 60V AC (peak)<br>2.7A 60V DC     | Certified by C-UL          | 2.7A 60V AC (peak)<br>2.7A 60V DC     |         |
|       | AQZ205D |                            | 1.8A 100V AC (peak)<br>1.8A 100V DC   |                            | 1.8A 100V AC (peak)<br>1.8A 100V DC   |         |
|       | AQZ207D |                            | 0.9A 200V AC (peak)<br>0.9A 200V DC   |                            | 0.9A 200V AC (peak)<br>0.9A 200V DC   |         |
|       | AQZ204D |                            | 0.45A 400V AC (peak)<br>0.45A 400V DC |                            | 0.45A 400V AC (peak)<br>0.45A 400V DC |         |

## • Photovoltaic MOSFET driver

| Item               | UL/C-UL (Recognized)       |                | CSA (Certified)            |                | Remarks |
|--------------------|----------------------------|----------------|----------------------------|----------------|---------|
|                    | File No.<br>(Standard No.) | Contact rating | File No.<br>(Standard No.) | Contact rating |         |
| APV2111V<br>(SSOP) | E191218<br>(UL1577)        | —              | —                          | —              |         |
| APV2121S<br>(SOP)  |                            | —              | —                          | —              |         |
| APV1121S<br>(SOP)  |                            | —              | —                          | —              |         |
| APV1122<br>(DIP6)  |                            | —              | —                          | —              |         |

## Solid State Relays

### Phototriac Coupler

| Item                                   | UL (Recognized)            |                                                                 | CSA (Certified)            |                | TÜV (Certified)            |                | Remarks                                                          |
|----------------------------------------|----------------------------|-----------------------------------------------------------------|----------------------------|----------------|----------------------------|----------------|------------------------------------------------------------------|
|                                        | File No.<br>(Standard No.) | Contact rating                                                  | File No.<br>(Standard No.) | Contact rating | File No.<br>(Standard No.) | Contact rating |                                                                  |
| zero-cross type<br>Non zero-cross type | E191218<br>(UL1577)        | SOP Type: 50mA 600V AC (peak)<br>DIP Type: 100mA 600V AC (peak) | Certified by C-UL          |                | —                          | —              | VDE approved<br>(Standard part numbers don't have VDE markings.) |

### • AQ-H

| Item                                             | UL (Recognized)            |                                                                                          | CSA (Certified)            |                | TÜV (Certified)            |                | Remarks      |
|--------------------------------------------------|----------------------------|------------------------------------------------------------------------------------------|----------------------------|----------------|----------------------------|----------------|--------------|
|                                                  | File No.<br>(Standard No.) | Contact rating                                                                           | File No.<br>(Standard No.) | Contact rating | File No.<br>(Standard No.) | Contact rating |              |
| 0.3A type<br>0.6A type<br>0.9A type<br>1.2A type | E191218<br>(UL1577)        | 0.3A 600V AC (peak)<br>0.6A 600V AC (peak)<br>0.9A 600V AC (peak)<br>1.2A 600V AC (peak) | Certified by C-UL          |                | —                          | —              | VDE approved |

### • AQ-G

| Item               | UL (Recognized)            |                          | CSA (Certified)            |                | TÜV (Certified)            |                | Remarks      |
|--------------------|----------------------------|--------------------------|----------------------------|----------------|----------------------------|----------------|--------------|
|                    | File No.<br>(Standard No.) | Contact rating           | File No.<br>(Standard No.) | Contact rating | File No.<br>(Standard No.) | Contact rating |              |
| 1A type<br>2A type | E43149<br>(UL508)          | 1A 240V AC<br>2A 240V AC | Certified by C-UL          |                | —                          | —              | VDE approved |

### • AQ-E

| Item               | UL (Recognized)            |                         | CSA (Certified)            |                | TÜV (Certified)            |                | Remarks      |
|--------------------|----------------------------|-------------------------|----------------------------|----------------|----------------------------|----------------|--------------|
|                    | File No.<br>(Standard No.) | Contact rating          | File No.<br>(Standard No.) | Contact rating | File No.<br>(Standard No.) | Contact rating |              |
| AC type<br>DC type | E43149<br>(UL508)          | 1A 250V AC<br>3A 60V DC | Certified by C-UL          |                | —                          | —              | VDE approved |

### • AQ-C

| Item                             | UL (Recognized)            |                                       | CSA (Certified)             |                                       | TÜV (Certified)                        |                | Remarks |
|----------------------------------|----------------------------|---------------------------------------|-----------------------------|---------------------------------------|----------------------------------------|----------------|---------|
|                                  | File No.<br>(Standard No.) | Contact rating                        | File No.<br>(Standard No.)  | Contact rating                        | File No.<br>(Standard No.)             | Contact rating |         |
| AC output type<br>DC output type | E43149<br>(UL508)          | 1A 125,250V AC                        | LR26550<br>(C22.2<br>No.14) | 1A 125,250V AC                        | Nr.BL9710<br>13461<br>136<br>(EN60950) | —              |         |
|                                  |                            | 1A 60V DC                             |                             | 1A 60V DC                             |                                        | —              |         |
| AC input type                    |                            | 25mA 32V DC<br>Input<br>80 to 250V AC |                             | 25mA 32V DC<br>Input<br>80 to 250V AC |                                        | —              |         |
| DC input type                    |                            | 25mA 32V DC<br>Input<br>3 to 32V DC   |                             | 25mA 32V DC<br>Input<br>3 to 32V AC   |                                        | —              |         |

### • AQ1

| Item                      |         | UL (Recognized)            |                                                                                    | CSA (Certified)                                                  |                                                                                    | TÜV (Certified)                                                                            |                | Remarks |
|---------------------------|---------|----------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------|---------|
|                           |         | File No.<br>(Standard No.) | Contact rating                                                                     | File No.<br>(Standard No.)                                       | Contact rating                                                                     | File No.<br>(Standard No.)                                                                 | Contact rating |         |
| DC output type            | 1A type | E43149<br>(UL508)          | 1A 10/200V DC                                                                      | LR26550<br>(C22.2<br>No.0,<br>C22.2<br>No.14,<br>C22.2<br>No.55) | 1A 200V DC                                                                         | Nr.BL9710<br>13641<br>136<br>(EN60950)<br>(Standard part numbers don't have VDE markings.) | —              |         |
|                           | 2A type |                            | 2A 3/60V DC                                                                        |                                                                  | 2A 60V DC                                                                          |                                                                                            | —              |         |
| AC output zero-cross type | 2A type | E95895<br>(UL508)          | 2A 125, 250V AC<br>FLA 1A 125, 250V AC<br>LRA 6A 125, 250V AC<br>2A 125V AC "L"    | LR26550<br>(C22.2<br>No.0, C22.2<br>No.14, C22.2<br>No.55)       | 2A 125, 250V AC<br>FLA 1A 125, 250V AC<br>LRA 6A 125, 250V AC<br>2A 125V AC "L"    | —                                                                                          | —              |         |
|                           | 5A type |                            | 5A 125, 250V AC<br>FLA 2.5A 125, 250V AC<br>LRA 15A 125, 250V AC<br>5A 125V AC "L" |                                                                  | 5A 125, 250V AC<br>FLA 2.5A 125, 250V AC<br>LRA 15A 125, 250V AC<br>5A 125V AC "L" |                                                                                            | —              |         |

### • AQ-B

| Item               | UL (Recognized)            |                | CSA (Certified)                 |                | TÜV (Certified)                                          |                | Remarks |
|--------------------|----------------------------|----------------|---------------------------------|----------------|----------------------------------------------------------|----------------|---------|
|                    | File No.<br>(Standard No.) | Contact rating | File No.<br>(Standard No.)      | Contact rating | File No.<br>(Standard No.)                               | Contact rating |         |
| 1A type<br>2A type | E43149<br>(UL508)          | 1A 125,250V AC | LR48894M14<br>(C22.2<br>No.950) | 1A 125,250V AC | Nr.R75168<br>Nr.R85137<br>(Reinforced type)<br>(EN60950) | 1A 125,250V AC |         |
|                    |                            | 2A 125,250V AC |                                 | 2A 125,250V AC |                                                          | 2A 125,250V AC |         |



# Standards Chart

• AQ8

| Item    |  | UL (Recognized)            |                                                                                   | CSA (Certified)             |                                                                                   | TÜV (Certified)                                                 |                                                                                   | Remarks                                                                |
|---------|--|----------------------------|-----------------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------|
|         |  | File No.<br>(Standard No.) | Contact rating                                                                    | File No.<br>(Standard No.)  | Contact rating                                                                    | File No.<br>(Standard No.)                                      | Contact rating                                                                    |                                                                        |
| 2A type |  | E95895<br>(UL508)          | 2A 125, 250V AC<br>FLA 1A 125, 250V AC<br>LRA 6A 125, 250V AC<br>2A 125V AC "L"   | LR26550<br>(C22.2<br>No.14) | 2A 125, 250V AC<br>FLA 1A 125,250V AC<br>LRA 6A 125,250V AC<br>2A 125V AC "L"     | Nr.9112<br>1645<br>569<br><br>(EN60950,<br>VDE0884,<br>VDE0805) | 2A 125,250V AC<br>FLA 1A 125,250V AC<br>LRA 6A 125,250V AC<br>2A 125V AC "L"      | VDE approved<br>(Standard part<br>numbers don't have<br>VDE markings.) |
| 3A type |  |                            | 3A 125, 250V AC<br>FLA 1.5A 125, 250V AC<br>LRA 9A 125, 250V AC<br>3A 125V AC "L" |                             | 3A 125, 250V AC<br>FLA 1.5A 125, 250V AC<br>LRA 9A 125, 250V AC<br>3A 125V AC "L" |                                                                 | 3A 125, 250V AC<br>FLA 1.5A 125, 250V AC<br>LRA 9A 125, 250V AC<br>3A 125V AC "L" |                                                                        |

• AQ-F

| Item                            |         | UL (Recognized)            |                | CSA (Certified)                               |                | TÜV (Certified)            |                | Remarks |
|---------------------------------|---------|----------------------------|----------------|-----------------------------------------------|----------------|----------------------------|----------------|---------|
|                                 |         | File No.<br>(Standard No.) | Contact rating | File No.<br>(Standard No.)                    | Contact rating | File No.<br>(Standard No.) | Contact rating |         |
| AC output<br>zero-cross<br>type | 2A type | E43149<br>(UL508)          | 2A 250V AC     | LR26550<br>(C22.2<br>No.0,<br>C22.2<br>No.14) | 2A 250V AC     | —                          | —              |         |
|                                 | 3A type |                            | 3A 250V AC     |                                               | 3A 250V AC     |                            | —              |         |
| DC output<br>type               | 2A type |                            | 2A 60V DC      |                                               | 2A 60V DC      |                            | —              |         |
|                                 | 3A type |                            | 3A 60V DC      |                                               | 3A 60V DC      |                            | —              |         |

• AQ-N

| Item     |  | UL (Recognized)            |                   | CSA (Certified)            |                | TÜV (Certified)            |                   | Remarks |
|----------|--|----------------------------|-------------------|----------------------------|----------------|----------------------------|-------------------|---------|
|          |  | File No.<br>(Standard No.) | Contact rating    | File No.<br>(Standard No.) | Contact rating | File No.<br>(Standard No.) | Contact rating    |         |
| 10A type |  | (Pending)                  | 10A 75 to 250V AC | (C-UL pending )            |                | (Pending)                  | 10A 75 to 250V AC |         |
| 15A type |  |                            | 15A 75 to 250V AC |                            |                |                            | 15A 75 to 250V AC |         |
| 20A type |  |                            | 20A 75 to 250V AC |                            |                |                            | 20A 75 to 250V AC |         |
| 25A type |  |                            | 25A 75 to 250V AC |                            |                |                            | 25A 75 to 250V AC |         |
| 40A type |  |                            | 40A 75 to 250V AC |                            |                |                            | 40A 75 to 250V AC |         |

• AQ-R

| Item     |  | UL (Recognized)            |                  | CSA (Certified)                |                  | TÜV (Certified)                                           |                  | Remarks |
|----------|--|----------------------------|------------------|--------------------------------|------------------|-----------------------------------------------------------|------------------|---------|
|          |  | File No.<br>(Standard No.) | Contact rating   | File No.<br>(Standard No.)     | Contact rating   | File No.<br>(Standard No.)                                | Contact rating   |         |
| 10A type |  | E43149<br>(UL508)          | 10A 125,250V AC  | LR48894M19<br>(C22.2<br>No.14) | 10A 125,250V AC  | Nr.R75169<br>Nr.R85136<br>(Reinforced type )<br>(EN60950) | 10A 125,250V AC  |         |
| 15A type |  |                            | 15A 125, 250V AC |                                | 15A 125, 250V AC |                                                           | 15A 125, 250V AC |         |
| 20A type |  |                            | 20A 125, 250V AC |                                | 20A 125, 250V AC |                                                           | 20A 125, 250V AC |         |
| 30A type |  |                            | 30A 250V AC      | Certified by C-UL              |                  |                                                           | —                |         |
| 40A type |  |                            | 40A 250V AC      |                                |                  |                                                           |                  |         |

• AQ-K

| Item     |  | UL (Recognized)            |                | CSA (Certified)            |                | TÜV (Certified)                                                   |                | Remarks |
|----------|--|----------------------------|----------------|----------------------------|----------------|-------------------------------------------------------------------|----------------|---------|
|          |  | File No.<br>(Standard No.) | Contact rating | File No.<br>(Standard No.) | Contact rating | File No.<br>(Standard No.)                                        | Contact rating |         |
| 15A type |  | E43149<br>(UL508)          | 15A 250V AC    | Certified by C-UL          |                | Nr. R50024471<br>(EN60947)<br>*Breakdown volt-<br>age 2,500V only | 15A 250V AC    |         |
| 25A type |  |                            | 25A 250V AC    |                            |                |                                                                   | 25A 250V AC    |         |

• I/O

| Item      |  | UL (Recognized)            |                                                         | CSA (Certified)             |                                                         | TÜV (Certified)            |                | Remarks |
|-----------|--|----------------------------|---------------------------------------------------------|-----------------------------|---------------------------------------------------------|----------------------------|----------------|---------|
|           |  | File No.<br>(Standard No.) | Contact rating                                          | File No.<br>(Standard No.)  | Contact rating                                          | File No.<br>(Standard No.) | Contact rating |         |
| AC output |  | E43149<br>(UL508)          | 2A 125, 250V AC<br>input 3-15V,<br>4-15V, 10-32V        | LR26550<br>(C22.2<br>No.14) | 2A 125, 250V AC<br>input 3-15V,<br>4-15V, 10-32V        | —                          | —              |         |
| DC output |  |                            | 2A 60V DC<br>1A 200V DC<br>input 3-15V,<br>4-15V,10-32V |                             | 2A 60V DC<br>1A 200V DC<br>input 3-15V,<br>4-15V,10-32V |                            | —              |         |
| AC input  |  |                            | 25mA 30V DC<br>input 80-140V AC,<br>160-280V AC         |                             | 25mA 30V DC<br>input 60-140V AC,<br>160-200V AC         |                            | —              |         |
| DC input  |  |                            | 25mA 30V DC<br>input 3-32V DC                           |                             | 25mA 30V DC<br>input 3-32V DC                           |                            | —              |         |

- Notes:
- For UL/CSA recognized type s, add suffix "9".  
The standard models conform to the UL/CSA standard.  
There is no need to add "9" at the end of the part No.  
All types of PhotoMOS Relays, AQ-F Solid state Relays, AQ-B Solid state Relays, AQ-C Solid state Relays, AQ8 Solid state Relays
  - For TÜV recognized type s, add suffix "2".

## Interface terminal

| Item                              | UL (Recognized)            |                                                                                                                               | CSA (Certified)            |                                                                                                                               | VDE (Certified)            |           | TV rating (UL/CSA)         |           | Remarks |
|-----------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------|----------------------------|-----------|---------|
|                                   | File No.<br>(Standard No.) | Recognized                                                                                                                    | File No.<br>(Standard No.) | Certified                                                                                                                     | File No.<br>(Standard No.) | Certified | File No.<br>(Standard No.) | Certified |         |
| RT-3 Unit Relay                   | E148103<br>C-UL approved   | For input<br>12V, 24V DC<br>For output<br>3A 250V AC, 3A 30V DC                                                               | —                          | Certified by C-UL                                                                                                             | —                          | —         | —                          | —         |         |
| RT-2 relay terminal               | E146103                    | For input<br>12V, 24V DC<br>For output (connector side)<br>12V, 24V DC<br>For output (terminal side)<br>2A 250V AC, 2A 30V DC | LR77753                    | For input<br>12V, 24V DC<br>For output (connector side)<br>12V, 24V DC<br>For output (terminal side)<br>2A 250V AC, 2A 30V DC | —                          | —         | —                          | —         |         |
| PC relay terminal/<br>PC terminal | E148103                    | For input<br>12V, 24V DC<br>100/110V, 200/220V AC<br>For output<br>3A 12V, 24V DC<br>100/110V, 200/220V AC                    | LR77753                    | For input<br>12V, 24V DC<br>100/110V, 200/220V AC<br>For output<br>5A 12V, 24V DC<br>100/110V, 200/220V AC                    | —                          | —         | —                          | —         |         |
| CT-2 connector terminal           | E148103                    | 1A 125V AC                                                                                                                    | LR77753                    | 1A 125V AC                                                                                                                    | —                          | —         | —                          | —         |         |

## ISO14001 certificate of approval

Since the establishment of the "Matsushita Electric Works Global Environmental Charter" in 1992, we are set to unite in a concerted effort toward making Matsushita Electric Works a company capable of sustainable development by striking the right balance between our commitments to the environment, the economy, and society.

Regarding environmental conservation, we are fully committed to the complete elimination of freon and trichloroethylene. In energy-related efforts, we are developing technology to create energy-saving products, and for natural resources, we are working to eliminate industrial waste and to develop recycling technology. Our goal is peaceful co-existence with our global society.

### Matsushita Electric Works Environmental Charter

#### ■ Obligations of the Manufacturer

- To provide products and services useful to society
- To fulfill social responsibilities
- To pursue corporate logic

#### ■ Global Co-existence

- Conservation of the global environment
- Protection of resources

#### ■ Co-existence With Society

- Contributing to our global society



## ISO9001 certificate of approval

Our Switching Device Division, which handles from development to production and marketing, has been approved for certification of the ISO9001 quality assurance standards established by the International Standards Organization (ISO).

On June 29, 1993, this achievement was officially registered by the certification organizations UKAS of the United Kingdom and RVA of the Netherlands. On January 17, 1995, we were also accredited by DAR of Germany and JAS-ANZ of New Zealand. This comprehensive certification covers all fields from mechanical to semiconductor types relays.



## QS-9000 certificate of approval

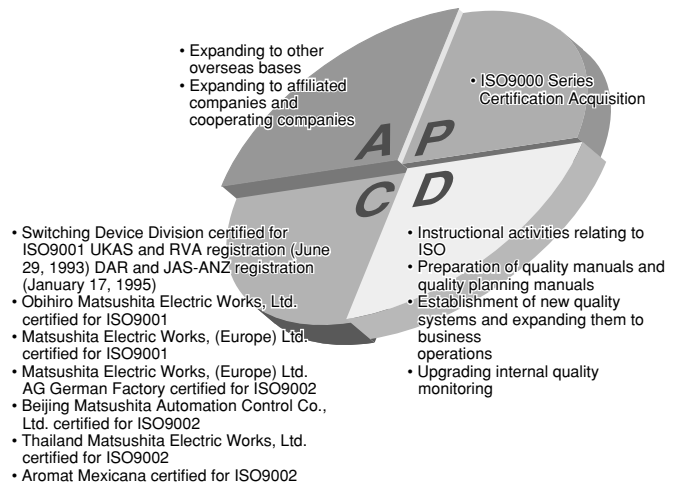
Our Switching Device Division has been accredited for QS-9000, covering our quality management system for an entire spectrum of automotive products ranging from mechanical to semiconductor relays.

QS-9000 is a required component of quality systems and includes independent requirements by the Big 3 of the U.S. automotive world, GM, Ford, and Chrysler. It calls for a comprehensive quality management system that includes CS, cost performance, ongoing improvement, and many other aspects of quality management.

#### ■ Certification Status

- Switching Device Division approved
- Obihiro Matsushita Electric Works, Ltd. approved
- Aromat Mexicana approved
- Thailand Matsushita Electric Works, Ltd. approved

### The Necessity and Pursuit of ISO Certification



### Advantages

- Strengthening and upgrading quality assurance organizational structures applicable on an international basis
- Technology can be accumulated and disseminated through documentation and records
- Leads to improved reliability of the manufacturer's quality and improved CS (customer satisfaction)