

## »» Features

- ☐ Low cost and low profile miniature PCB Relays.
- ☐ UL/CUL, TUV approved.
- ☐ High rating 12A SPDT, 8A DPDT.
- ☐ 3.5mm & 5mm pinning are both available.
- ☐ Standard coil 700mW and high sensitivity coil 530mW.
- ☐ SPNC, SPNO, SPDT, DPNO, DPNC, DPDT contact configurations.
- ☐ General purpose application including UPS, power supply controls, Home Appliances of heating element controls, motor control for access control, etc.
- ☐ PC board type socket & hold down clips can be offered with relay for automation control application.
- ☐ Comply with RoHS-Directive 2011/65/EU.



## »» Type List

### ◆Standard Type

| Terminal style | Contact form | High capacity | UL Insulation system approval | Designation |             |                      |
|----------------|--------------|---------------|-------------------------------|-------------|-------------|----------------------|
|                |              |               |                               | Flux tight  | Sealed type | Sealed type washable |
| PCB terminal   | 1A (SPNO)    | H             | -----                         | 845H-1A-C   | 845H-1A-V   | 845H-1A-S            |
|                | 1C (SPDT)    | H             | -----                         | 845H-1C-C   | 845H-1C-V   | 845H-1C-S            |
|                | 2A (DPNO)    | -----         | -----                         | 845-2A-C    | 845-2A-V    | 845-2A-S             |
|                | 2C (DPDT)    | -----         | -----                         | 845-2C-C    | 845-2C-V    | 845-2C-S             |
|                | 2A (DPNO)    | H             | -----                         | 845H-2A-C   | 845H-2A-V   | 845H-2A-S            |
|                | 2C (DPDT)    | H             | -----                         | 845H-2C-C   | 845H-2C-V   | 845H-2C-S            |
|                | 1A (SPNO)    | H             | F                             | 845H-1A-F-C | 845H-1A-F-V | 845H-1A-F-S          |
|                | 1C (SPDT)    | H             | F                             | 845H-1C-F-C | 845H-1C-F-V | 845H-1C-F-S          |
|                | 2A (DPNO)    | -----         | F                             | 845-2A-F-C  | 845-2A-F-V  | 845-2A-F-S           |
|                | 2C (DPDT)    | -----         | F                             | 845-2C-F-C  | 845-2C-F-V  | 845-2C-F-S           |
|                | 2A (DPNO)    | H             | F                             | 845H-2A-F-C | 845H-2A-F-V | 845H-2A-F-S          |
|                | 2C (DPDT)    | H             | F                             | 845H-2C-F-C | 845H-2C-F-V | 845H-2C-F-S          |

### ◆High Sensitivity Type

|              |           |       |       |              |              |              |
|--------------|-----------|-------|-------|--------------|--------------|--------------|
| PCB terminal | 1A (SPNO) | H     | ----- | 845HN-1A-C   | 845HN-1A-V   | 845HN-1A-S   |
|              | 1C (SPDT) | H     | ----- | 845HN-1C-C   | 845HN-1C-V   | 845HN-1C-S   |
|              | 2A (DPNO) | ----- | ----- | 845N-2A-C    | 845N-2A-V    | 845N-2A-S    |
|              | 2C (DPDT) | ----- | ----- | 845N-2C-C    | 845N-2C-V    | 845N-2C-S    |
|              | 2A (DPNO) | H     | ----- | 845HN-2A-C   | 845HN-2A-V   | 845HN-2A-S   |
|              | 2C (DPDT) | H     | ----- | 845HN-2C-C   | 845HN-2C-V   | 845HN-2C-S   |
|              | 1A (SPNO) | H     | F     | 845HN-1A-F-C | 845HN-1A-F-V | 845HN-1A-F-S |
|              | 1C (SPDT) | H     | F     | 845HN-1C-F-C | 845HN-1C-F-V | 845HN-1C-F-S |

|              |           |       |   |              |              |              |
|--------------|-----------|-------|---|--------------|--------------|--------------|
| PCB terminal | 2A (DPNO) | ----- | F | 845N-2A-F-C  | 845N-2A-F-V  | 845N-2A-F-S  |
|              | 2C (DPDT) | ----- | F | 845N-2C-F-C  | 845N-2C-F-V  | 845N-2C-F-S  |
|              | 2A (DPNO) | H     | F | 845HN-2A-F-C | 845HN-2A-F-V | 845HN-2A-F-S |
|              | 2C (DPDT) | H     | F | 845HN-2C-F-C | 845HN-2C-F-V | 845HN-2C-F-S |

### Ordering Information

845 ☐ ☐ - 1A - ☐ - C ☐

1 2 3 4 5 6 7

- |          |                                |                             |                                                                             |
|----------|--------------------------------|-----------------------------|-----------------------------------------------------------------------------|
| 1. 845   | -- Basic series designation    | 2B                          | -- Double pole normally closed                                              |
| 2. Blank | -- Standard type               | 2C                          | -- Double pole double throw                                                 |
| H        | -- High capacity type          | 5. Blank                    | -- Standard type                                                            |
| 3. Blank | -- Standard type               | F                           | -- Class F                                                                  |
| N        | -- High sensitivity type       | 6. C                        | -- Flux tight                                                               |
| 4. 1A    | -- Single pole normally open   | V                           | -- Sealed type                                                              |
| 1B       | -- Single pole normally closed | S                           | -- Sealed type washable                                                     |
| 1C       | -- Single pole double throw    | 7. <input type="checkbox"/> | -- Coil voltage (please refer to the coil rating data for the availability) |
| 2A       | -- Double pole normally open   |                             |                                                                             |

### Contact Rating

| Load type               | (845H) 1A , 1B , 1C | (845) 2A , 2B , 2C | (※) (845H) 2A , 2B , 2C |
|-------------------------|---------------------|--------------------|-------------------------|
| Rated load (resistive)  | 10A 240VAC          | 5A 240VAC          | 8A 240VAC               |
| Max. switching current  | 10A                 | 5A                 | 8A                      |
| Max. switching voltage  | 277VAC              | 277VAC             | 277VAC                  |
| Max. switching capacity | 2400VA              | 1200VA             | 1920VA                  |

### Coil Rating (DC)

#### ◆ Standard Type

| Rated voltage<br>(V) | Rated current<br>±10 % at 23°C<br>(mA) | Coil resistance<br>±10 % at 23°C<br>(Ω) | Max. continuous<br>voltage<br>at 85°C | Pick up<br>voltage(Max.)<br>at 23°C | Drop out<br>voltage(Min.)<br>at 23°C | Power consumption<br>at rated<br>voltage |
|----------------------|----------------------------------------|-----------------------------------------|---------------------------------------|-------------------------------------|--------------------------------------|------------------------------------------|
| 3                    | 234                                    | 12.8                                    | 160 % of<br>rated<br>voltage          | 75 % of<br>rated<br>voltage         | 10 % of<br>rated<br>voltage          | approx. 0.7W                             |
| 5                    | 139                                    | 36                                      |                                       |                                     |                                      |                                          |
| 6                    | 118                                    | 51                                      |                                       |                                     |                                      |                                          |
| 9                    | 78                                     | 116                                     |                                       |                                     |                                      |                                          |
| 12                   | 58                                     | 206                                     |                                       |                                     |                                      |                                          |
| 18                   | 39                                     | 460                                     |                                       |                                     |                                      |                                          |
| 24                   | 29                                     | 825                                     |                                       |                                     |                                      |                                          |
| 36                   | 19.5                                   | 1850                                    |                                       |                                     |                                      |                                          |
| 48                   | 15                                     | 3300                                    |                                       |                                     |                                      |                                          |
| 60                   | 11.7                                   | 5100                                    |                                       |                                     |                                      |                                          |
| 110                  | 6.4                                    | 17,230                                  |                                       |                                     |                                      |                                          |

### ◆High Sensitivity Type

| Rated voltage<br>(V) | Rated current<br>±10 % at 23°C<br>(mA) | Coil resistance<br>±10 % at 23°C<br>(Ω) | Max. continuous<br>voltage<br>at 85°C | Pick up<br>voltage(Max.)<br>at 23°C | Drop out<br>voltage(Min.)<br>at 23°C | Power consumption<br>at rated<br>voltage |
|----------------------|----------------------------------------|-----------------------------------------|---------------------------------------|-------------------------------------|--------------------------------------|------------------------------------------|
| 3                    | 176                                    | 17                                      | 170 % of<br>rated<br>voltage          | 80 % of<br>rated<br>voltage         | 10 % of<br>rated<br>voltage          | approx. 0.53W                            |
| 5                    | 105                                    | 47.7                                    |                                       |                                     |                                      |                                          |
| 6                    | 88                                     | 68                                      |                                       |                                     |                                      |                                          |
| 9                    | 60                                     | 150                                     |                                       |                                     |                                      |                                          |
| 12                   | 44                                     | 275                                     |                                       |                                     |                                      |                                          |
| 18                   | 29.5                                   | 610                                     |                                       |                                     |                                      |                                          |
| 24                   | 22                                     | 1100                                    |                                       |                                     |                                      |                                          |
| 36                   | 14.8                                   | 2440                                    |                                       |                                     |                                      |                                          |
| 48                   | 11                                     | 4400                                    |                                       |                                     |                                      |                                          |
| 60                   | 8.8                                    | 6800                                    |                                       |                                     |                                      |                                          |

### » Specification

|                                      |                                          |                                                                             |
|--------------------------------------|------------------------------------------|-----------------------------------------------------------------------------|
| Contact material                     | AgSnO alloy                              |                                                                             |
| Contact resistance <sup>(1)</sup>    | 100mΩ Max. (1A/6VDC by 4 pipes mΩ meter) |                                                                             |
| Operate time <sup>(1)</sup>          | 20ms Max.                                |                                                                             |
| Release time <sup>(1)</sup>          | 10ms Max.                                |                                                                             |
| Insulation resistance <sup>(1)</sup> | 1000 MΩ Min. (DC 500V)                   |                                                                             |
| Dielectric strength <sup>(1)</sup>   | Between open contact                     | : AC 1000V , 50/60Hz 1 min.                                                 |
|                                      | Between contact and coil                 | : AC 5000V , 50/60Hz 1 min.                                                 |
|                                      | Between contact circuits                 | : AC 3000V , 50/60Hz 1 min. (for 2pole only)                                |
| Vibration resistance                 | Operating extremes                       | 10~55Hz , amplitude 1.5 mm                                                  |
|                                      | Damage limit                             | 10~55Hz , amplitude 1.5 mm                                                  |
| Shock resistance                     | Operating extremes                       | 10G                                                                         |
|                                      | Damage limits                            | 100G                                                                        |
| Life expectancy                      | Mechanical                               | 10,000,000 operations<br>(frequency 18,000 operations/hr)                   |
|                                      | Electrical                               | 100,000 operations (※) 50,000 operations<br>(frequency 1,200 operations/hr) |
| Operating ambient temperature        | -40°C ~ +85°C (no freezing)              |                                                                             |
| Weight                               | Approx. 14g                              |                                                                             |

Note : (1) initial value

### » Safety Approval

| Certified | UL / CUL | TUV       |
|-----------|----------|-----------|
| File No.  | E88991   | R09754104 |

### »» Safety Approval Rating(UL/CUL)

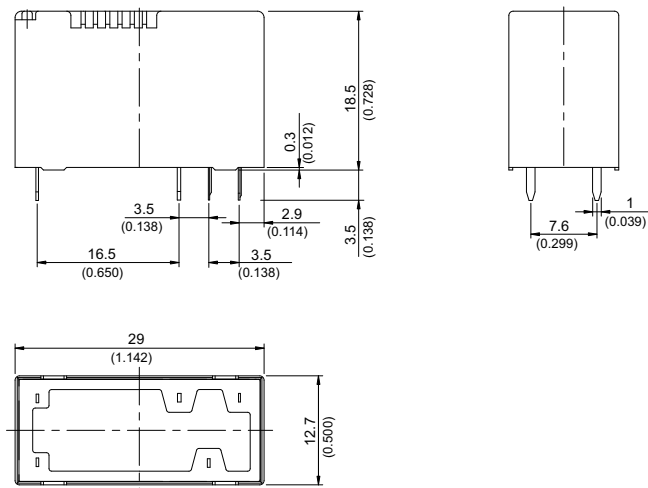
| 845 2A , 2B , 2C                                                       | 845H 2A , 2B , 2C                                                      | 845H 1A , 1B , 1C                                                        |
|------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------|
| 5A 277VAC<br>5A 30VDC<br>1/8HP 125VAC/250VAC<br>TV-3 (NO contact only) | 8A 277VAC<br>8A 30VDC<br>1/4HP 125VAC/250VAC<br>TV-3 (NO contact only) | 12A 277VAC<br>12A 30VDC<br>1/2HP 125VAC/250VAC<br>TV-5 (NO contact only) |

### »» Safety Approval Rating(TUV)

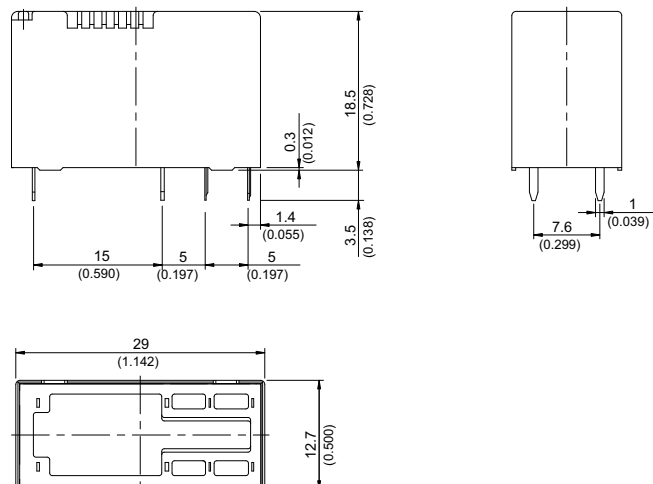
| 845 2A , 2B , 2C                                  | 845H 2A , 2B , 2C                                 | 845H 1A , 1B , 1C                                    |
|---------------------------------------------------|---------------------------------------------------|------------------------------------------------------|
| 5A 250VAC<br>5A 30VDC<br>3A 250VAC $\cos\phi$ 0.4 | 8A 250VAC<br>8A 30VDC<br>5A 250VAC $\cos\phi$ 0.4 | 12A 250VAC<br>12A 30VDC<br>10A 250VAC $\cos\phi$ 0.4 |

### »» Outline Dimensions

#### ◆ 845 1P

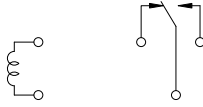


#### ◆ 845 2P

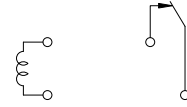


## Wiring Diagram BOTTOM VIEW

1C



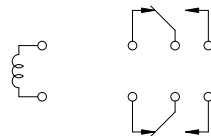
1B



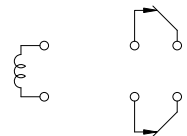
1A



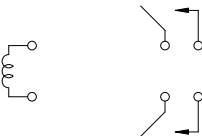
2C



2B

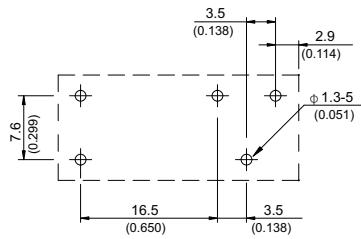


2A

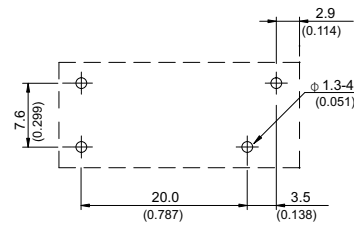


## PC Board Layout BOTTOM VIEW

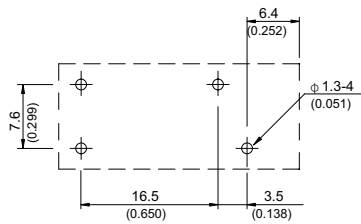
1C



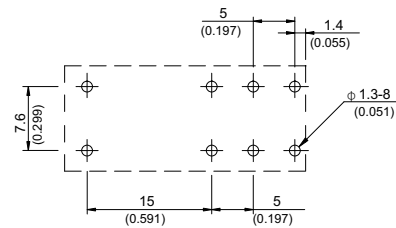
1A



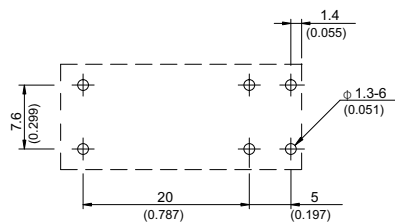
1B



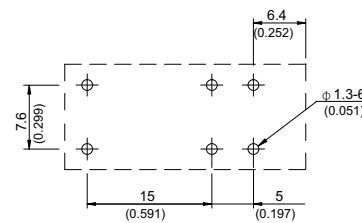
2C



2A

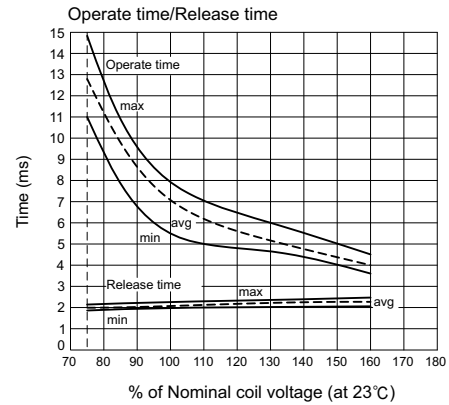
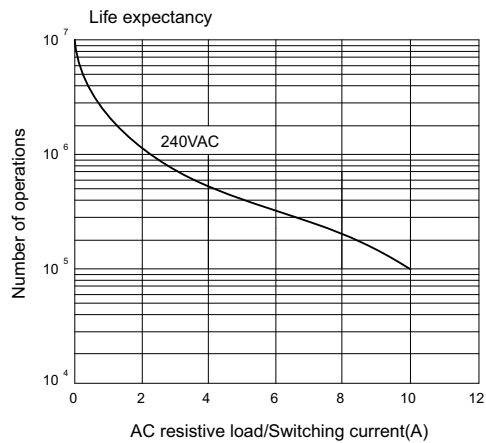
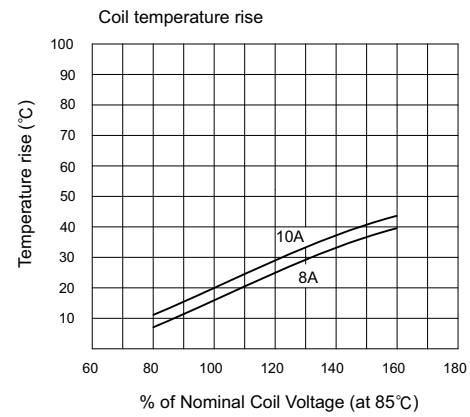
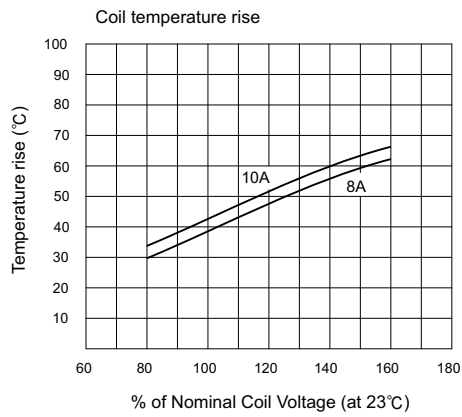


2B



## »» Engineering Data

## ◆845H-1P



## ◆845-2P

