





- * Artificial Intelligence < A.I > Control Fuzzy + PID Control
- * Enhanced Autotuning Method AT Bias Value Settable
- * Multi-Input Type K/J/PT Selectable
- * Alarm Function 18 Modes Selectable
- * RUN/STOP Function Operated On The Panel Easily
- * Communication Function RS-485 Optional




















| Outline | Figure | Model | Output Method | Power supply | Guiding of Model |
|--|--------|----------|---------------|-----------------------------------|---|
| 48 mm <W> 48 mm <H> 100mm<D> Fixed Hole 45×45 | | MT48-R | RELAY | 90 ~ 265 VAC 50 / 60 HZ | Ex : MT48 - R - RS - mA Series MT series FUZZY+PID Temperature Controller Outline 48=48 <W>x 48<H> mm 72=72 <W>x 72<H> mm 4896=48 <W>x 96<H> mm 96=96 <W>x 96<H> mm 20=48 <W>x 96<H> mm 21=96 <W>x 48<H> mm Output Method R : Relay 3A/250VAC SPDT V : Voltage DC12V/50mA L : Linear4~20mA Other NON : STANDARD RS : RS-485 S : 4~mAPV Resender Input NON : K / J / PT mA : mA mV : mV V : 0 ~ 10 V VR : VARIABLE RESISTANCE ※ Standard specification for heating up control ※ Cooling for non- regular stock, if has the need please in advance to order |
| | | MT48-V | DC12V/50mA | | |
| | | MT48-L | Linear4~20mA | | |
| 72 mm <W> 72 mm <H> 80 mm <D> Fixed Hole 68×68 | | MT72-R | RELAY | | |
| | | MT72-V | DC12V/50mA | | |
| | | MT72-L | Linear4~20mA | | |
| 96 mm <W> 96 mm <H> 80 mm <D> Fixed Hole 90×90 | | MT96-R | RELAY | | |
| | | MT96-V | DC12V/50mA | | |
| | | MT96-L | Linear4~20mA | | |
| 48 mm <W> 96 mm <H> 100mm<D> Fixed Hole 45×91 | | MT4896-R | RELAY | | |
| | | MT4896-V | DC12V/50mA | | |
| | | MT4896-L | Linear4~20mA | | |
| 48 mm <W> 96 mm <H> 80 mm <D> Fixed Hole 45×91 | | MT20-R | RELAY | | |
| | | MT20-V | DC12V/50mA | | |
| | | MT20-L | Linear4~20mA | | |
| 96 mm <W> 48 mm <H> 80 mm <D> Fixed Hole 91×45 | | MT21-R | RELAY | | |
| | | MT21-V | DC12V/50mA | | |
| | | MT21-L | Linear4~20mA | | |

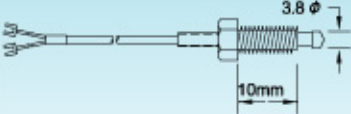
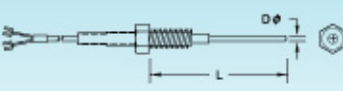
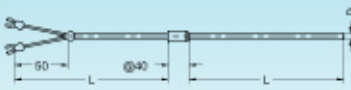

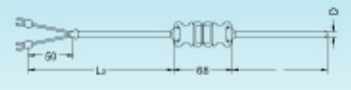
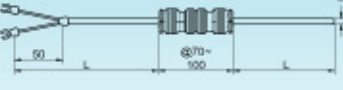


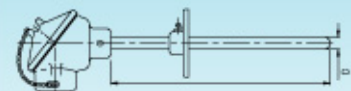


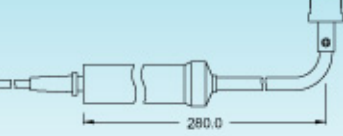
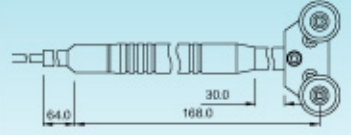
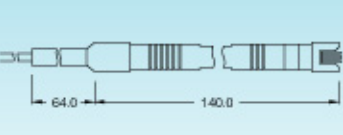
- * High Reliability by S.M.T. &TQC.
- * With Cold Junction Compensation, Suited to Operated at -20°C ~+60°C
- * All type with Sensor Break Alarm LED.
- * With P+D Control to Control Temperature Easily.
- * High Accuracy of Displaying & Setting Less than 0.5% of F.S.
- * With Stand-by/Over-heat Alarm <Optioned> .
- * With Heater Break Alarm <Optioned> .



| Outline | Method of Setting | Method of Display | Figure | Model | Guiding of Model |
|---|---|-------------------|---|---------------------|--|
| 48 mm<W> 48 mm<H> 65+20mm<D> Fixed Hole 45×45 | Trimmer | Without Display |  | H5AN-□-□ | <p>Ex : <u>H5 A N-PT-F-R 4-S</u></p> <p>Product</p> <p>Method of Setting A : Trimmer D : Digital Switch</p> <p>Method of Display D : Digital LED Display N : Without Display</p> <p>Unit of Degree PT : RTD PT-100Ω J : J (IC) TYPE NON : K (CA) TYPE</p> <p>Unit of Degree F=°F non=°C</p> <p>Method of Output R : RELAY (5A/250VAC) V : VOLTAGE (20mA/12V)</p> <p>Range of Setting Digital Switch Trimmer 0 = -99~ +99 1 = 0 ~ +100 1 = 0 ~ +199 2 = 0 ~ +200 3 = 0 ~ +399 4 : 0 ~ +400 5 = 0 ~ +599 6 : 0 ~ +600 9 = 0 ~ +999</p> <p>Method of Control S : ON/OFF non : P+D ON/OFF</p> |
| 48 mm<W> 48 mm<H> 100mm<D> Fixed Hole 45×45 | | | Digital Switch | Digital LED Display | |
| |  | TC48-DN-□-□ | | | |
| |  | TC48DD-□-□ | | | |
| | | |  | TC48DD-□-□-AH | |

| Outline | Method of Setting | Method of Display | Figure | Model | Guiding of Model | |
|---|------------------------------|------------------------------|---|---|--|---|
| 48 mm<W> 96 mm<H> 100mm<D> Fixed Hole 45×92 | Analog Deviation Meter | Analog Deviation Meter |  | TC4896-DA-□-□ | Ex : <u>TC72- D A-PT-R 3-F-S-AH</u> Product TC= Temperature Controller Outline 48=48 <W>x 48<H> mm 72=72 <W>x 72<H> mm 4896=48 <W>x 96<H> mm 96=96 <W>x 96<H> mm | |
| | | | TC4896-DA-□-□-A | | | |
| | | | TC4896-DA-□-□-AH | | | |
| | | Digital LED Display |  | TC4896-DD-□-□ | | |
| | | | TC4896-DD-□-□-A | | | |
| | | | TC4896-DD-□-□-AH | | | |
| 72 mm<W> 72 mm<H> 117mm<D> Fixed Hole 68×68 | Trimmer | Without Display |  | TC72-AN-□-□ | Method of Setting A : Trimmer D : Digital Switch Method of Display A : Analog Deviation Meter D : Digital LED Display N : Without Display Type of Sensor PT : RTD PT-100Ω J : J (IC) TYPE NON : K (CA) TYPE Output Method R : Relay 5A/250VAC SPDT V : Voltage DC12V/50mA L : Linear4~20mA Range of Setting Digital Switch Trimmer 0 = -99 ~ +99 0= -50 ~ +50 1 = 0 ~ +199 1 = 0 ~ +100 3 = 0 ~ +399 2 = 0 ~ +200 5 = 0 ~ +599 4 : 0 ~ +400 9 = 0 ~ +999 6 : 0 ~ +600 11 = 0 ~ +1199 12 : 0 ~ +1200 Unit of Degree F : °F non : °C Method of Control S : ON/OFF non : P+D ON/OFF Alarm A=With Stand-by/Over Heat Alarm AH= With Stand-by/Over Heat Alarm & Heater Break Alarm Non=Without Alarm | |
| | | | Analog Deviation Meter |  | | TC72-AA-□-□ |
| | | Digital Switch | Without Display |  | | TC72-DN-□-□ |
| | | | | Analog Deviation Meter | |  |
| | Trimmer | | Digital LED Display |  | | TC72-AD-□-□ |
| | | | | TC72-AD-□-□-A | | |
| | Digital Switch | Digital LED Display |  | TC72-DD-□-□ | | |
| | | | TC72-DD-□-□-A | | | |

| Outline | Method of Setting | Method of Display | Figure | Model | Guiding of Model | |
|---|-------------------|------------------------|---|--|---|--|
| 96 mm<W> 96 mm<H> 80 mm<D> Fixed Hole 90×90 | Trimmer | Without Display |  | TC96-AN-□-□ | Ex : <u>TC96- D A-PT-R 3-F-S-AH</u> Product TC= Temperature Controller Outline 48=48 <W>x 48<H>mm 72=72 <W>x 72<H>mm 4896=48 <W>x 96<H>mm 96=96 <W>x 96<H>mm Method of Setting A : Trimmer D : Digital Switch Method of Display A : Analog Deviation Meter D : Digital LED Display N : Without Display Type of Sensor PT : RTD PT-100Ω J : J (IC) TYPE NON : K (CA) TYPE Output Method R : Relay 5A/250VAC SPDT V : Voltage DC12V/50mA L : Linear4~20mA Range of Setting Digital Switch Trimmer 0 = -99 ~ +99 0 = -50 ~+50 1 = 0 ~ +199 1 = 0 ~ +100 3 = 0 ~ +399 2 = 0 ~ +200 5 = 0 ~ +599 4 : 0 ~ +400 9 = 0 ~ +999 6 : 0 ~ +600 11 = 0~+1199 12 : 0~+1200 Unit of Degree F : °F non : °C Method of Control S : ON/OFF non : P+D ON/OFF Alarm A=With Stand-by/Over Heat Alarm AH= With Stand-by/Over Heat Alarm & Heater Break Alarm Non=Without Alarm | |
| | | Analog Deviation Meter |  | TC96-AA-□-□ TC96-AA-□-□-A TC96-AA-□-□-AH | | |
| | | Without Display |  | TC96-DN-□-□ | | |
| | Digital Switch | Without Display |  | TC96-DA-□-□ TC96-DA-□-□-A TC96-DA-□-□-AH | | |
| | | Analog Deviation Meter |  | TC96-AD-□-□ TC96-AD-□-□-A TC96-AD-□-□-AH | | |
| | | Digital LED Display |  | TC96-DD-□-□ TC96-DD-□-□-A TC96-DD-□-□-AH | | |
| | Trimmer | Digital Switch | Without Display |  | | TC96-AN-□-□ |
| | | | Analog Deviation Meter |  | | TC96-AA-□-□ TC96-AA-□-□-A TC96-AA-□-□-AH |
| | | | Without Display |  | | TC96-DN-□-□ |

| TS1 | Screw Type | TS2 | Screw Type | Guiding | |
|--|-----------------------|---|-----------------------|--|--|
|  | |  | | Lead Wire Type : <u>TS 1- K-3.2-150-T2-S1-1.5M-G</u> Terminal Type : <u>TS 8- K-3.2-150-T2-KS-__ - G</u> | |
| TS3 | Inserting Type | TS4 | Push Lock Type | Product TC= Temperature Controller | |
|  | |  | | Shape | |
| TS5 | Fast Connector Type | TS6 | Fast Connector Type | Sensor Type PT : RTD PT-100Ω J : J (IC) TYPE NON : K (CA) TYPE | |
|  | |  | | Diameter of protection Tube 5.0φ、6.35φ、8.0φ、9.5φ、12.0φ | |
| TS7 | Closed Terminal Type | TS8 | Closed Terminal Type | Length of Protection Tube Does not contain the spiral tooth length, any length may accept charge ordering. Unit=mm | |
|  | |  | | Fixed Method Nut Type : M6、M8、W1/4、W5/16、 Screw Type : Pt1/4、Pt3/8、Pt1/2 | |
| TS9 | Closed Terminal Type | TS10 | Exposed Terminal Type | Connection Method Lead Wire Type Terminal Type S1 : Stainless Net Coat 0.32×4 KS : Closed Type S2 : Stainless Net Coat 0.65×1 KN : Closed Type T1 : Teflon Coat 0.32×4 TS : Exposed Type T2 : Teflon Coat 0.65×1 TL : Exposed Type P1 : PVC Coat 0.32×4 P2 : PVC Coat 0.65×1 | |
|  | |  | | Unit of Degree Unit : M non : Terminal Type | |
| TS11 | Exposed Terminal Type | TS12 | Surface Type | Method of Control U : Ungrounded Type E : Exposed Type non : Grounded Type | |
|  | |  | | Unit of Degree Unit : M non : Terminal Type | |
| TS13 | Surface Type | TS14 | Surface Type | Method of Control U : Ungrounded Type E : Exposed Type non : Grounded Type | |
|  | |  | | Method of Control U : Ungrounded Type E : Exposed Type non : Grounded Type | |
| | | | | ※Except the above shape, we accept Your order to manufacture. | |

Features :

- * **Multi-input method selectable :**
4~20mA 、 0~20mA 、 1~5V 、 2~10V
0 ~5V or Variable resistor.
- * **Multi-self-diagnosis function :**
Fuse burned-out 、 Phase loss 、 Over heat 、
Cooling fan malfunction
- * **Auto-control or manual control selectable.**
- * **High/Low limit of output volume settable.**
- * **Time of soft-start or kick-start settable.**
- * **Power frequency 50/60Hz auto-detect.**
- * **Zero-cross control or phase control selectable.**
- * **Multi-function monitor :**
Output volume 、 Virtual current volume 、 Error status or function setting.



| Type | Outline | Picture | Model | Main power | Aux. power | Protection fuse | Rated current |
|--|--|----------|-------------------|-------------------|----------------------------|-----------------|---------------|
| Single phase Single wire | L : 105 mm W : 72 mm H : 120 mm | | DSC-240 | 220VAC | 220VAC | 32A×1 | 32A max |
| | | | DSC-340 | 380VAC | 380VAC | | |
| | | | DSC-440 | 440VAC | 440VAC | | |
| | L : 150 mm + 28mm(fan) W : 72 mm H : 120 mm | | DSC-265 | 220VAC | 220VAC | 80A×1 | 65A max |
| | | | DSC-365 | 380VAC | 380VAC | | |
| | | | DSC-465 | 440VAC | 440VAC | | |
| Three phases Three wires | L : 164 mm + 28mm(fan) W : 96 mm H : 142.5 mm | | TSC-340 | 180VAC } | 90VAC } | 40A×1 | 40A max |
| | | | TSC-365 | 440VAC 50/60Hz | 265VAC 50/60Hz | 80A×1 | 65A max |
| Single phase Two wires | L : 200 mm + 28mm(fan) W : 96 mm H : 146 mm | | EPS1-40 | 180VAC } | 220V/ 380VAC 50/60Hz | 40A×1 | 40A |
| | | | EPS1-60 | | | 63A×1 | 60A |
| | | | EPS1-80 | | | 80A×1 | 80A |
| | | | EPS1-100 | | | 100A×1 | 100A |
| | EPS1-125 | 125A×1 | 125A | | | | |
| L : 214 mm + 28mm(fan) W : 96 mm H : 173 mm | | EPS1-150 | 440VAC 50/60Hz | 160A×1 | 150A | | |
| Two phases Two wires | L : 200 mm + 28mm(fan) W : 96 mm H : 146 mm | | EPS2-40 | 180VAC } | 220V/ 380VAC 50/60Hz | 40A×2 | 40A max |
| | | | EPS2-60 | 440VAC 50/60Hz | | 63A×2 | 60A max |

| Type | Outline | Picture | Model | Main power | Aux. power | Protection fuse | Rated current | | |
|----------------------------|--|---------|----------|----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|--------|----------|
| Two phases / Two wires | L : 200 mm + 28 mm(fan) W : 96 mm H : 173 mm | | EPS2-80 | 180VAC } 440VAC 50/60Hz | 220VAC or 380VAC 50/60Hz | 80A×2 | 80A max | | |
| | | | EPS2-100 | | | 100A×2 | 100A max | | |
| | | | EPS2-125 | | | 125A×2 | 125A max | | |
| | L : 150 mm + 28 mm(fan) W : 96 mm H : 173 mm | | EPS2-150 | | | 160A×2 | 150A max | | |
| Three phases / Three wires | L : 200 mm + 28 mm(fan) W : 96 mm H : 173 mm | | EPS3-40 | 180VAC } 440VAC 50/60Hz | 220VAC or 380VAC 50/60Hz | 40A×3 | 40A max | | |
| | | | EPS3-60 | | | 63A×3 | 60A max | | |
| | | | EPS3-80 | | | 80A×3 | 80A max | | |
| Single phase / Two wires | L : 214 mm + 28mm(fan) W : 140 mm H : 174 mm | | TPS1-160 | | | 180VAC } 440VAC 50/60Hz | 220VAC or 380VAC 50/60Hz | 160A×1 | 160A max |
| | | | TPS1-200 | 200A×1 | 200A max | | | | |
| Two phases / Three wires | L : 214 mm + 28 mm(fan) W : 140 mm H : 174 mm | | TPS2-100 | 180VAC } 440VAC 50/60Hz | 220VAC or 380VAC 50/60Hz | | | 100A×2 | 100A max |
| | | | TPS2-125 | | | | | 125A×2 | 125A max |
| | L : 218 mm + 28 mm(fan) W : 140 mm H : 205 mm | | TPS2-160 | | | 160A×2 | 150A max | | |
| | | | TPS2-200 | | | 200A×2 | 200A max | | |
| Three phases / Three wires | L : 214 mm + 28mm(fan) W : 140 mm H : 74 mm | | TPS3-40 | 180VAC } 440VAC 50/60Hz | 220VAC or 380VAC 50/60Hz | 40A×3 | 40A max | | |
| | | | TPS3-60 | | | 63A×3 | 60A max | | |
| | | | TPS3-80 | | | 80A×3 | 80A max | | |
| | L : 218 mm + 28 mm(fan) W : 140 mm H : 205 mm | | TPS3-100 | | | 100A×3 | 100A max | | |
| | | | TPS3-125 | | | 125A×3 | 125A max | | |
| | | | TPS3-160 | | | 160A×3 | 160A max | | |
| | | | TPS3-200 | | | 200A×3 | 200A max | | |

Features :

- * High dielectric strength over 4KV.
- * High isolation strength over 100MΩ/500VDC.
- * With Over-heat protection circuit (120℃) .
- * High surge current sustenance over 10 times.
- * High surge voltage sustenance
- * Conformity with EN60947-4-3 \ EN60950.



| Picture | Model | Rated current | Surge Current | I2t for Fuse | Input Voltage | Output Voltage | |
|---------|-----------------|---------------|---------------|--------------|---------------|----------------|--------------|
| | HPR - 60DA | 60A | 850A | 1800A²S | 4 ~ 32 VDC | 24 ~ 380 VAC | |
| | HPR - 80DA | 80A | 1200A | 3200A²S | | | |
| | HPR - 100DA | 100A | 1750A | 7200A²S | | | |
| | HPR - 60DA - H | 60A | 850A | 1800A²S | | 20 ~ 265 VAC | 24 ~ 550 VAC |
| | HPR - 80DA - H | 80A | 1200A | 3200A²S | | | |
| | HPR - 100DA - H | 100A | 1750A | 7200A²S | | | |
| | HPR - 60AA | 60A | 850A | 1800A²S | 20 ~ 265 VAC | | 24 ~ 380 VAC |
| | HPR - 80AA | 80A | 1200A | 3200A²S | | | |
| | HPR - 100AA | 100A | 1750A | 7200A²S | | | |
| | HPR - 60AA - H | 60A | 850A | 1800A²S | | 20 ~ 265 VAC | 24 ~ 550 VAC |
| | HPR - 80AA - H | 80A | 1200A | 3200A²S | | | |
| | HPR - 100AA - H | 100A | 1750A | 7200A²S | | | |

| Picture | Current of Load | Heat Sink | Cooling fan |
|---------|-----------------|--------------|---|
| | <5A | Non-required | Non-required |
| | <12A | HS-50H | Non-required |
| | <25A | HS-ESR-60 | Non-required |
| | >25A | HS-ESR-60 | 80×80mm (AC220V) (High efficient type) |

- ※ To protect the solid state module against a short-circuit of the load,
Please apply with a fast-burned fuse which value of I2t must be less than half of the specified value.
- ※ The thermal conductive silicone rubber (K>4.5) or thermal grease is required,
when the solid state module is mounted on a heat sink

Features :

- * High dielectric strength over 4KV.
- * High isolation strength over 100MΩ/500VDC.
- * With Over-heat protection circuit (120℃) .
- * High surge current sustenance over 10 times.
- * High surge voltage sustenance
- * Conformity with EN60947-4-3 和 EN60950.



| Picture | Model | Rated current | Surge Current | I ² t for Fuse | Input Voltage | Output Voltage | |
|---------|---------------|---------------|---------------|---------------------------|-------------------|-------------------|--------------|
| | ESR – 25DA | 25A | 275A | 259A ² S | 4 ~ 32 VDC | 24 ~ 380 VAC | |
| | ESR – 40DA | 40A | 410A | 664A ² S | | | |
| | ESR – 60DA | 60A | 850A | 1800A ² S | | | |
| | ESR – 80DA | 80A | 1200A | 3200A ² S | | | |
| | ESR – 100DA | 100A | 1750A | 7200A ² S | | | |
| | ESR – 25DA-H | 25A | 275A | 259A ² S | | 20 ~ 265 VAC / DC | 90 ~ 480 VAC |
| | ESR – 40DA-H | 40A | 410A | 664A ² S | | | |
| | ESR – 60DA-H | 60A | 850A | 1800A ² S | | | |
| | ESR – 80DA-H | 80A | 1200A | 3200A ² S | | | |
| | ESR – 100DA-H | 100A | 1750A | 7200A ² S | | | |
| | ESR – 25AA | 25A | 275A | 259A ² S | 20 ~ 265 VAC / DC | | 24 ~ 380 VAC |
| | ESR – 40AA | 40A | 410A | 664A ² S | | | |
| | ESR – 60AA | 60A | 850A | 1800A ² S | | | |
| | ESR – 80AA | 80A | 1200A | 3200A ² S | | | |
| | ESR – 100AA | 100A | 1750A | 7200A ² S | | | |
| | ESR – 25AA-H | 25A | 275A | 259A ² S | | 20 ~ 265 VAC / DC | 90 ~ 480 VAC |
| | ESR – 40AA-H | 40A | 410A | 664A ² S | | | |
| | ESR – 60AA-H | 60A | 850A | 1800A ² S | | | |
| | ESR – 80AA-H | 80A | 1200A | 3200A ² S | | | |
| | ESR – 100AA-H | 100A | 1750A | 7200A ² S | | | |







| Picture | Current of Load | Heat Sink | Cooling fan |
|---------|-----------------|--------------|---|
| | <12A | Non-required | Non-required |
| | >12A <24A | HS-ESR-100 | Non-required |
| | >24A | HS-ESR-100 | 80×80mm (AC220V) (High efficient type) |

- ※ To protect the solid state module against a short-circuit of the load, Please apply with a fast-burned fuse which value of I²t must be less than half of the specified value.
- ※ The thermal conductive silicone rubber (K>4.5) or thermal grease is required, when the solid state module is mounted on a heat sink.

- * High Reliability by S.M.T. & TQC.
(Surface Mounting Technology)
- * High isolation over than 50MΩ/500VDC
- * High Dielectric over than 2.5KV.
- * Low Enable Current less than 7.5mA/12VDC COMS I.C. or TTL Compatible.
- * Low EMI/EFI & Surge by Zero Cross Trigger Method.
- * High Surge Current Duration over 10 Times of rated current/One Cycle.
- * High Surge Voltage Duration by Snubber Circuit.



| Figure | Model | Rated Load Current | Input Operating Voltage | Output Operating Voltage | Guiding of Model |
|--------|-------------|--------------------|--|--------------------------|--|
| | SSR-10 DA | 10A | 4~32 VDC ON/OFF | 24~380 VAC | Ex : <u>SSR- 40 L A-H</u> Product SSR : Single Phase S.S.R. TSR : Three Phase S.S.R. Output Current 10=10A 25=25A 40=40A 50=50A 75=75A Input Operating Voltage L : 4~20 mA D : 4~32 VDC A : 80~250 VAC V : Variable Resistor Output Operating Voltage A : AC Voltage D : DC Voltage Output Voltage Range H : 90~480 VAC (High Voltage) non : Standard Type |
| | SSR-25 DA | 25A | | | |
| | SSR-40 DA | 40A | | | |
| | SSR-50 DA | 50A | | | |
| | SSR-75 DA | 75A | | | |
| | SSR-25 DA-H | 25A | 80~250 VAC ON/OFF | 90~480 VAC | |
| | SSR-40 DA-H | 40A | | | |
| | SSR-50 DA-H | 50A | | | |
| | SSR-75 DA-H | 75A | | | |
| | SSR-10 AA | 10A | 110V : VR250KΩ 220V : VR500KΩ 380V/VR1MΩ | 24~380 VAC | |
| | SSR-25 AA | 25A | | | |
| | SSR-40 AA | 40A | | | |
| | SSR-50 AA | 50A | | | |
| | SSR-75 AA | 75A | | | |
| | SSR-10 AA-H | 10A | 4~32 VDC ON/OFF | 5~60 VDC | |
| | SSR-25 AA-H | 25A | | | |
| | SSR-40 AA-H | 40A | | | |
| | SSR-50 AA-H | 50A | | | |
| | SSR-75 AA-H | 75A | | | |
| | SSR-10 VA | 10A | 4~32 VDC ON/OFF | 5~60 VDC | |
| | SSR-25 VA | 25A | | | |
| | SSR-40 VA | 40A | | | |
| | SSR-05 DD | 5A | 4~32 VDC ON/OFF | 5~60 VDC | |
| | SSR-10 DD | 10A | | | |

| Figure | Model | Rated Load Current | Input Operating Voltage | Output Operating Voltage | Guiding of Model | |
|---|-------------|--------------------|--------------------------|--------------------------|--|---|
|  | SSR-25 LA | 25A | 4~20 mA <線性> | 24~380 VAC | Ex : <u>SSR- 40 L A-H</u> Product SSR : Single Phase S.S.R. TSR : Three Phase S.S.R. | |
| | SSR-40 LA | 40A | | | | |
| | SSR-50 LA | 50A | | | | |
| | SSR-75 LA | 75A | | | | |
|  | SSR-25 LA-H | 25A | | 90~480 VAC | | Output Current 10=10A 25=25A 40=40A 50=50A 75=75A |
| | SSR-40 LA-H | 40A | | | | |
| | SSR-50 LA-H | 50A | | | | |
| | SSR-75 LA-H | 75A | | | | |
|  | TSR-25 DA | 25A | 4~32 VDC ON / OFF | 24~380 VAC | Input Operating Voltage L : 4~20 mA D : 4~32 VDC A : 80~250 VAC V : Variable Resister | |
| | TSR-40 DA | 40A | | | | |
| | TSR-50 DA | 50A | | | | |
| | TSR-75 DA | 75A | | | | |
|  | TSR-25 DA-H | 25A | | 90 ~ 480 VAC | | Output Operating Voltage A : AC Voltage D : DC Voltage Output Voltage Range H : 90~480 VAC (High Voltage) non : Standard Type |
| | TSR-40 DA-H | 40A | | | | |
| | TSR-50 DA-H | 50A | | | | |
| | TSR-75 DA-H | 75A | | | | |
|  | TSR-25 AA | 25A | 80 ~ 250 VAC ON / OFF | 24 ~ 380 VAC | | |
| | TSR-40 AA | 40A | | | | |
| | TSR-50 AA | 50A | | | | |
| | TSR-75 AA | 75A | | | | |
|  | TSR-25 AA-H | 25A | | 90 ~ 480 VAC | | |
| | TSR-40 AA-H | 40A | | | | |
| | TSR-50 AA-H | 50A | | | | |
| | TSR-75 AA-H | 75A | | | | |

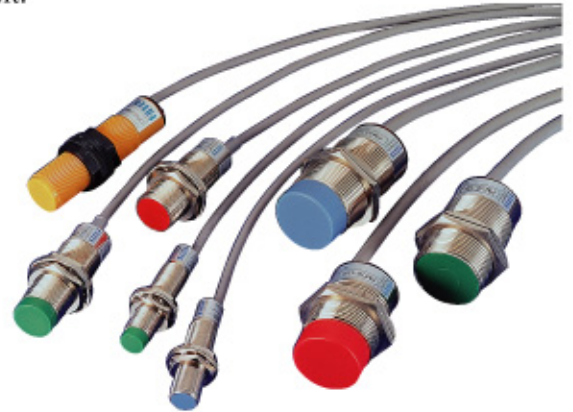
- * Safety : Semiconductor fuse inside.
- * Reliability : With multi-surge killer circuit.
- * High compact structure.
- * Zero cross control.
- * Low trigger current.



| Model | SSR-F-10DA-H | SSR-F-25DA-H | SSR-F-40DA-H | SSR-F-10DA | SSR-F-25DA | SSR-F-40DA |
|--------------------------|--------------|--------------|--------------|------------|------------|------------|
| Rated current | 10A | 25A | 40A | 10A | 25A | 40A |
| Fuse current | 6A | 16A | 25A | 6A | 16A | 25A |
| Rated load current | 4A | 10A | 16A | 4A | 10A | 16A |
| Input Operating Voltage | 4~32VDC | | | 4~32VDC | | |
| Output Operating Voltage | 90~480VAC | | | 24~380VAC | | |

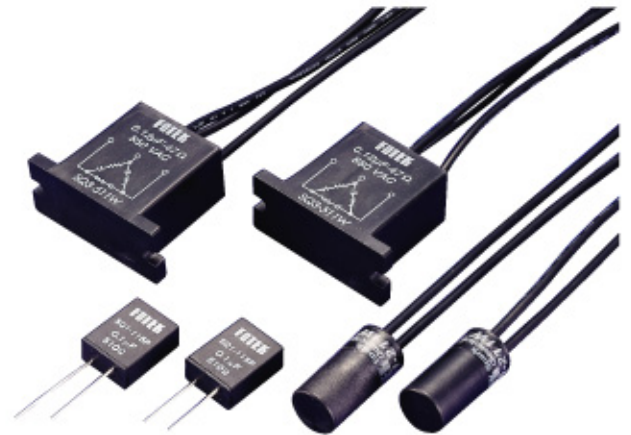
| Figure | Model | Dimension | Current Duration | PCS OF SSR | Selection of heat sink |
|--------|----------|-------------|--|---------------------------|---|
| | HS-50H | 50 mm | 10A MAX. | Single | <p>Please accord the current of load To select adequate heat sink to fit the solid state relay.</p> <p>* If current of load less than 5A, may don't fit heat sink.</p> <p>* If current of load between 5A and 15A, please select 「HS-50H」 to fit SSR.</p> <p>* If current of load between 15A and 25A, please select 「HS-50」 to fit SSR.</p> <p>* If current of load over than 25A, please select 「HS-50」 added cooling fan to fit SSR.</p> |
| | HS-100H | 100 mm | 18A MAX. | Twice | |
| | HS-150H | 150 mm | 25A MAX. | Three | |
| | HS-200H | 200 mm | 30A MAX. | Four | |
| | HS-50 | 50 mm | 20A MAX. | Single | <p>Note:</p> <p>* Before fitting heat sink to the SSR, please add the heat conductance silicon rubber or coat the heat conductance paste between SSR and heat sink.</p> <p>* Please add the cooling fan to the SSR control box to increase the effect of heat sink.</p> <p>* If the temperature of SSR is higher than 80° C, it may result the SSR in malfunction.</p> |
| | HS-100 | 100 mm | 30A MAX. | Twice | |
| | HS-150 | 150 mm | 40A MAX. | Three | |
| | HS-200 | 200 mm | 50A MAX. | Four | |
| | TSR-100 | 100 mm | 30A MAX. | Special Three Phase S.S.R | |
| | | | | | |
| | SF11592A | 92mm × 92mm | Use above actual electric current 20A. | AC110V | |
| | SF23092A | | | AC220V | |

- * High Reliability with short circuit & polarity reversed protection circuit.
- * Positive output or negative outputs are available.
- * Protection class IP-67
- * Low leakage current : 0.8mA MAX.



| Outline | M12 | | M18 | |
|------------------------|--|----------|----------|----------|
| Model | TW12-02C | TW12-04C | TW18-05C | TW18-08C |
| Sensing distance | 2.0mm | 4.0mm | 5.0mm | 8.0mm |
| Setting distance | 0~1.6mm | 0~3.2mm | 0~4.0mm | 0~6.0mm |
| Response Frequency | 1.0K Hz | 800 Hz | 500 Hz | 400 Hz |
| Operating Voltage | 10~30VDC , Ripple $\lt; \pm 20\%$ of peak to peak | | | |
| Output Current | 5.0~150mA | | | |
| Connection Method | 2C/4.2 ϕ \times 2M | | | |
| Operating circumstance | -20 $^{\circ}$ C ~ +80 $^{\circ}$ C ; 35% ~ 85%RH | | | |

- * TO Extend the Life of contact.
- * To Quench the Spark of Contact.
- * To Quench the Noise of power Line.
- * To Quench the Surge of Voltage.



| Type | Load Wire Type | | | PCB Type |
|------------------------|---|-------------|--------------|--------------|
| Model | SQ1-211W | SQ3-351W | SQ3-511W | SQ1-115P |
| Phase | Single phase | Three phase | | Single phase |
| Operating Voltage max. | 250VAC | 300VAC | 550VAC | 250VAC |
| Max. Darded Voltage | 750Vp-p/1ms | 900Vp-p/1ms | 1500Vp-p/1ms | 500Vp-p/1ms |
| Length of wire | 10 cm | | | |
| Operating Temp/Hum. | -20 $^{\circ}$ C ~ +80 $^{\circ}$ C ; 35% ~ 85%RH | | | |

- * DC Type with short circuit protection and polarity Reversed protection.
- * AC Type with surge absorbing circuit may avoid surge damaged.
- * High solid compact structure IP-67 suited to be applied in the poor circumstance
- * All models with operation LED ; Easy to adjusted



| Figure | Model | Output Method | Sensing Direction | Operating Voltage | Guiding of Model |
|--------|----------|---------------|-------------------|-------------------|---|
| | LS-04N | NPN | 4.0 mm | 10 ~ 30 VDC | <p>Ex : <u>PS - 04 N B - V-PG</u></p> <p>Type PS : Square Type PL : Long Square Type PP : Plate Type BS : Micro Type</p> <p>Sensing distance 02 : 2.0 mm 04 : 4.0 mm 05 : 5.0 mm 08 : 8.0 mm 10 : 10.0 mm 15 : 15.0 mm</p> <p>Output Metho N : NPN P : PNP S : SCR</p> <p>Output status B : NC TYPE NON : NO TYPE</p> <p>Direction of sensing V = Vertical Type NON = Horizontal Type</p> <p>Connection method NON : Lead wire Type M12 : M12 connector Type PG : M8 Lead wire connector Type</p> <p>Note : The B<NC> Type have no stock maybe accepted to manufacture.</p> |
| | LS-04P | PNP | | | |
| | LS-04N-V | NPN | | | |
| | LS-04P-V | PNP | | | |
| | PS-04N | NPN | 4.0 mm | 10 ~ 30 VDC | |
| | PS-04P | PNP | | | |
| | PS-04N-V | NPN | | | |
| | PS-04P-V | PNP | | | |
| | BS-02N | NPN | 2.0 mm | 10 ~ 30 VDC | |
| | BS-02P | PNP | 4.0 mm | | |
| | BS-04N | NPN | | | |
| | BS-04P | PNP | | | |
| | SP-05N | NPN | 5.0 mm | 10 ~ 30 VDC | |
| | SP-05P | PNP | 8.0 mm | | |
| | SP-08N | NPN | | | |
| | SP-08P | PNP | | | |
| | PP-05N | NPN | 5.0 mm | 10 ~ 30 VDC | |
| | PP-05P | PNP | 8.0 mm | | |
| | PP-08N | NPN | | | |
| | PP-08P | PNP | | | |
| | PS-05N | NPN | 5.0 mm | 10 ~ 30 VDC | |
| | PS-05P | PNP | 8.0 mm | | |
| | PS-08N | NPN | | | |
| | PS-08P | PNP | | | |
| | PL-05N | NPN | 5.0 mm | 10 ~ 30 VDC | |
| | PL-05P | PNP | 8.0 mm | | |
| | PL-08N | NPN | | | |
| | PL-08P | PNP | | | |

| Figure | Model | Output Method | Sensing Direction | Operating Voltage | Guiding of Model |
|--------|--------|---------------|-------------------|-------------------|--|
| | PS-05S | SCR | 5.0 mm | 90 ~ 250VAC | The content please refer to the P10 |
| | PS-08S | | | | |
| | PS-10N | NPN | 10.0 mm | 10 ~ 30 VDC | |
| | PS-10P | PNP | | | |
| | PS-15N | NPN | 15.0 mm | | |
| | PS-15P | PNP | | | |
| | PS-10S | SCR | 10.0 mm | 90 ~ 250VAC | |
| | PS-15S | | 15.0 mm | | |

- * Sensitivity Adjustable with 14 turns trimmer.
- * High stability with Low Thermal Drift.
- * Metallic & Non-Metallic Objects. Are Sensible ∙ Including Glass ∙ Lumber ∙ Oil ∙ Water and Plastic Objects Ets.
- * NC Type are available.

Model : CP18-30NB ∙ CP18-30PB ∙ CP30-50SB ∙ CP30-50CB




| Outline | M18 × 71.0mm | | M30 × 60.0mm | |
|----------------------|--|----------|--------------|-----------|
| Model | CP18-30N | CP18-30P | CP30-50C | CP30-50S |
| Sensing Direction | 20.0mm | | 30.0 mm | |
| Operating Voltage | 10~30VDC Ripple < ±20% of peak to peak | | | 90~250VAC |
| Response Frequency | 100Hz | | | 15Hz |
| Output Method | NPN/NO | PNP/NO | NPN+PNP/NO | SCR |
| Output Current | 150 mA | | | 100mA |
| Sensitivity Adjuster | 14 Turns trimmer | | | |
| Housing Material | PBT | | | |
| Operating Temp/Hum. | -20°C ~ +80°C ; 35% ~ 85%RH | | | |

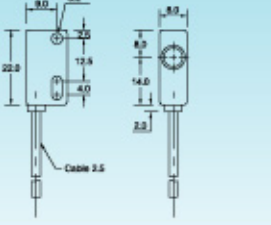
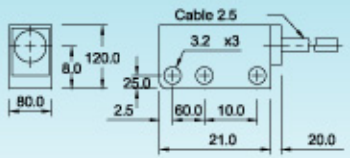
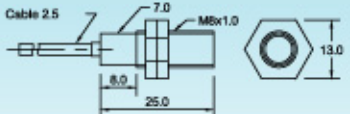
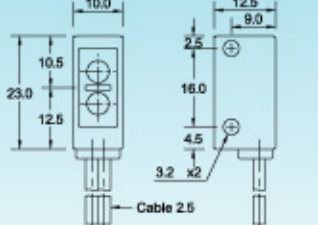
» M8/M12/M18/M30 Screw Type

| Figure | Model | Output Method | Sensing Direction | Operating Voltage | Guiding of Model |
|--------|------------|---------------|-------------------|-------------------|---|
| | PM08-01N | NPN | 1.0 mm | 10 ~ 30 VDC | Ex : <u>PM 12-04 N B - S-M12</u> Type PM : Screw Type Outline 08 : M8 12 : M12 18 : M18 30 : M30 Sensing distance 01 : 1.0 mm 02 : 2.0 mm 04 : 4.0 mm 05 : 5.0 mm 08 : 8.0 mm 10 : 10.0 mm 15 : 15.0 mm Output Method N : NPN P : PNP S : SCR Output status B : NC TYPE NON : NO TYPE Length of body S : Short TYPE NON : Standard TYPE Connection Method NON : Lead wire Type M12 : M12 connector Type PG : M8 Lead wire connector Type ※ Note : The B<NC>Type have no stock maybe accepted to manufacture. |
| | PM08-01P | PNP | | | |
| | PM08-02N | NPN | 2.0 mm | | |
| | PM08-02P | PNP | | | |
| | PM12-02N-S | NPN | 2.0 mm | 10 ~ 30 VDC | |
| | PM12-02P-S | PNP | | | |
| | PM12-04N-S | NPN | 4.0 mm | | |
| | PM12-04P-S | PNP | | | |
| | PM12-02N | NPN | 2.0 mm | 10 ~ 30 VDC | |
| | PM12-02P | PNP | | | |
| | PM12-04N | NPN | 4.0 mm | | |
| | PM12-04P | PNP | | | |
| | PM12-02S | SCR | 2.0 mm | 90 ~ 250VAC | |
| | PM12-04S | | 4.0 mm | | |
| | PM18-05N-S | NPN | 5.0 mm | 10 ~ 30 VDC | |
| | PM18-05P-S | PNP | | | |
| | PM18-08N-S | NPN | 8.0 mm | | |
| | PM18-08P-S | PNP | | | |
| | PM18-05N | NPN | 5.0 mm | 10 ~ 30 VDC | |
| | PM18-05P | PNP | | | |
| | PM18-08N | NPN | 8.0 mm | | |
| | PM18-08P | PNP | | | |
| | PM18-05S | SCR | 5.0 mm | 90 ~ 250VAC | |
| | PM18-08S | | 8.0 mm | | |
| | PM30-10N-S | NPN | 10.0 mm | 10 ~ 30 VDC | |
| | PM30-10P-S | PNP | | | |
| | PM30-15N-S | NPN | 15.0 mm | | |
| | PM30-15P-S | PNP | | | |
| | PM30-10N | NPN | 10.0 mm | 10 ~ 30 VDC | |
| | PM30-10P | PNP | | | |
| | PM30-15N | NPN | 15.0 mm | | |
| | PM30-15P | PNP | | | |
| | PM30-10S | SCR | 10.0 mm | 90 ~ 250VAC | |
| | PM30-15S | | 15.0 mm | | |

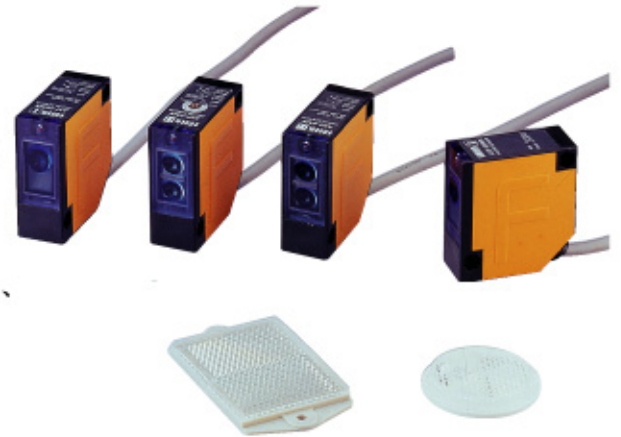
» Amplifier Unit

| Model | A-8 | A-9 | FS-50 |
|----------------------|---|--|---|
| Figure |  |  |  |
| Operating Voltage | 110V/220V 50/60Hz | | 10~30VDC |
| Output Method | Relay, 5A/250VAC Max | | NPN&PNP NO/NC 150mA |
| Response | 15ms | 2ms | 2ms |
| Output Control | non | ONE SHOT OFF DELAY { 0.1s~10s } ON DELAY { adjustable } | non |
| Response Time | 0.1Sec以下 | | |
| Sensitivity Adjuster | 270° Trimmer | | |
| Operating Temp./Hum. | -20°C~+60°C ; 35%~85%RH | | |

» Sensor Head Unit

| Type | Shape & Dimension | Model | Light Source | Sensible Distance | Sensible Object |
|---|---|--------------|--------------|-------------------|-----------------|
| Thru Beam Type |  | SV-10 | Green LED | 10 cm | 2 φ |
| | | SV-15 | Red LED | 15 cm | 0.5 φ |
| | | SV-30 | Red LED | 30 cm | 1 φ |
| | | SV-50 | Red LED | 50 cm | 2 φ |
| | | SV-2M | Infrared LED | 2 M | 2 φ |
| |  | SH-10 | Green LED | 10 cm | 2 φ |
| | | SH-15 | Red LED | 15 cm | 0.5 φ |
| | | SH-30 | Red LED | 30 cm | 1 φ |
| | | SH-50 | Red LED | 50 cm | 2 φ |
| | | SH-2M | Infrared LED | 2 M | 2 φ |
| |  | SC-10 | Green LED | 10 cm | 2 φ |
| | | SC-15 | Red LED | 15 cm | 0.5 φ |
| | | SC-30 | Red LED | 30 cm | 1 φ |
| | | SC-50 | Red LED | 50 cm | 2 φ |
|  | SB-03 | Red LED | 3 cm | 2 φ | |
| | SB-10 | Infrared LED | 10 cm | 1 φ | |

- * Extensive operating voltage DC12 ~ 240V or AC24 ~ 240V.
 - * High Capacity relay output 3A/250VAC.
 - * High compact structure IP-65.
 - * Multi Surge kicker circuit effectively protects from surge damage.
 - * B Type (Normal close Type) have no stock maybe, accepted order to manufacture
- Model : A3R-30XB、A3R-1MXB、A3R-2MXB、A3G-2MRB、
A3G-4MXB、A3T-10MXB、A3T-20MXB
- * Polarity Mirror Reflexives (A3G-4MRE) Reflex Type available.



| Type | Figure | Model | Sensitivity Adjuster | Sensible Distance | Guiding of Model |
|--------------------|--------|-----------|----------------------|-------------------|--|
| Reflex Type | | A3R-30X | 270° Trimmer | 30 CM | Ex : <u>A3 R- 30 XB- P</u> SERIES A3 : Free Power Photo Sensor Type R : Reflex Type G : Mirror Reflex Type T : Thru Beam Type Sensing Distance 30=30cm 1M=1m 2M=2m 10M=10m Emitter X : Infrared LED. R : Red LED. Output Status non : NO TYPE B : NC TYPE Protection Class non : IP-65 P : IP-67 |
| | | A3R-1MX | | 1 M | |
| | | A3R-2MX | | 2 M | |
| | | A3R-30XP | | 30 CM | |
| | | A3R-1MXP | | 1 M | |
| | | A3R-2MXP | | 2 M | |
| Mirror Reflex Type | | A3G-2MR | Without | 2 M | |
| | | A3G-2MRS | | 2 M | |
| | | A3G-4MRE | | 4 M | |
| | | A3G-4MX | | 4 M | |
| | | A3G-2MRP | 270° Trimmer | 2 M | |
| | | A3G-4MXP | 4 M | | |
| Thru Beam Type | | A3T-3MX | Without | 3 M | |
| | | A3T-10MX | | 10 M | |
| | | A3T-20MX | | 20 M | |
| | | A3T-3MXP | | 3 M | |
| | | A3T-10MXP | | 10 M | |
| | | A3T-20MXP | | 20 M | |

Note : 輸出狀態 <NC> Type 非經常性庫存，如果需要請預先訂購。

- * Extensive operating voltage DC12 ~ 240V or AC24 ~ 240V.
- * High Capacity relay output 3A/250VAC.
- * High compact structure IP-66
- * Multi-protection circuit – Burst test over 2KV.
- * Longer sensing distance
 - Thru beam type : 30m
 - Mirror reflex type : 8m



| Type | | Figure | Model | Sensitivity Adjuster | Sensible Distance | | Guiding of Model |
|----------------------------|---------------|-----------|--|--|-------------------|-----|---|
| Reflex Type | Standard Type | | E3R-60X | 270° Trimmer | 60 CM | | Ex : <u>E3</u> <u>R-</u> <u>60</u> <u>XB-</u> SERIES E3 : Free Power Photo Sensor Type R : Reflex Type G : Mirror Reflex Type T : Thru Beam Type Sensing Distance 30=30cm 1M=1m 10M=10m Emitter X : Infrared LED. R : Red LED. Output Status non : NO TYPE B : NC TYPE |
| | | | E3R-60XB | | | | |
| | Timer Type | | M3R-60X | Off delay 0~1sec adjustable | 60 CM | | |
| | | | M3R-60XB | | | | |
| Mirror Reflex Type | Standard Type | | E3G-8MX | Without | MR-1 | 8M | |
| | | | E3G-8MXB | | MR-2 | 4M | |
| | Timer Type | | M3G-8MX | With On delay 0~1sec adjustable | MR-3 | 12M | |
| | | | M3G-8MXB | | | | |
| Polarity Mirror Reflexives | Standard Type | | E3G-6MRE | Without | MR-1 | 6M | |
| | | | E3G-6MREB | | MR-2 | 3M | |
| | Timer Type | | M3G-6MRE | With On delay 0~1sec adjustable | MR-3 | 8M | |
| | | | M3G-6MREB | | | | |
| Thru Beam Type | Standard Type | | E3T-10MX | Without | 10M | | |
| | | | E3T-10MXB | | | | |
| | | | E3T-30MX | | | | |
| | | | E3T-30MXB | | | | |
| Timer Type | | M3T-30MX | With On delay 0~1sec adjustable | 30M | | | |
| | | M3T-30MXB | | | | | |

Note : 輸出狀態 <NC> Type 非經常性庫存，如果需要請預先訂購。

- * Operating Voltage : DC10~30V.
- * NPN & PNP Two Output ; NO/NC Changeable.
- * Polarity Reversed Protection Circuit.
- * Vertical & Horizontal Sensing Direction Are Available.
- * Protected By Short Circuit & Polarity reversed-protection.
- * Long Sensing Distance :
 - Reflex Type : 2m
 - Mirror Reflex Type : 4m
 - Thru Beam Type : 20m

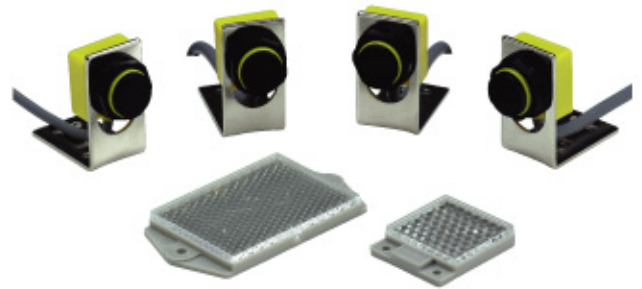


» General Specification

| | |
|----------------------|---|
| Operating Voltage | 10~30VDC · Ripple < 20% of Peak to Peak |
| Response Time | 2ms Max. |
| Output Method | NPN&PNP Two Output 150mA |
| Output Status | NO/NC Type Available Also |
| Connection Method | 4C/5.0×2M |
| Operating Temp./Hum. | -20°C~+80°C ; 35%~85%RH |
| Protection Class | IP-65 |

| Type | Figure | Model | Sensitivity Direction | Sensible Distance | Guiding of Model | |
|--------------------|--------|-----------|-----------------------|-------------------|--|--|
| Reflex Type | | FR-1MX | Horizontal | 1 M | Ex : <u>F</u> <u>R</u> - <u>2M</u> <u>X</u> - <u>V</u> SERIES F : Standard Type Photo Sensor Type R : Reflex Type G : Mirror Reflex Type T : Thru Beam Type Sensing Distance 30=30cm 1M=1m 2M=2m 10M=10m Emitter X : Infrared LED. R : Red LED. Sensitivity Direction non : NO TYPE V : Vertical | |
| | | FR-2MX | | 2 M | | |
| | | FR-1MX-V | Vertical | 1 M | | |
| | | FR-2MX-V | | 2 M | | |
| Mirror Reflex Type | | FG-3MX | Horizontal | 3 M | | |
| | | FG-3MX-V | Vertical | | | |
| Thru Beam Type | | FT-10MX | Horizontal | 10 M | | |
| | | FT-20MX | | 20 M | | |
| | | FT-10MX-V | Vertical | 10 M | | |
| | | FT-20MX-V | | 20 M | | |

- * Ultra short Body length : 30mm Only
- * Ultra long Setting Distance : Thru Beam 30.0M.
- * NPN & PNP Two Outputs.
- * High Solid compact construction : IP-67
- Application : Car washer Machine 、 Conveyor belt



| Type | Figure | Model | Sensitivity Direction | Sensible Distance | Guiding of Model |
|--------------------|--------|-----------|-----------------------|-------------------|--|
| Reflex Type | | R18-10X | NO | 10 CM | Ex : <u>R18 - 10 X-B</u> Type R18 : Diffuse Reflex Type M18 : Mirror Reflex Type T18 : Thru Beam Type Sensing Distance 10=30cm 3M=3m 10M=10m 30M=30m Emitter X : Infrared LED. R : Red LED. Output Status non : NO TYPE B : NC TYPE |
| | | R18-10XB | NC | | |
| Mirror Reflex Type | | M18-3MX | NO | 3 M | |
| | | M18-3MXB | NC | 3 M | |
| Thru Beam Type | | T18-30MX | NO | 30 M | |
| | | T18-30MXB | NC | 30 M | |
| | | T18-6MX | NO | 6 M | |
| | | T18-6MXB | NC | 6 M | |

» SU Series U Type Mark & Label Sensor

| Figure | Model | Output Method | Emitter | Response frequency | Application |
|--------|---------|---------------|--------------|--------------------|---|
| | SU-07W | NPN+PNP/NO | White LED | 1 KHz | Suited to detect the mark on transparent packing material |
| | SU-07R | | Red LED | | |
| | SU-07G | | Green LED | | |
| | SU-07X | NPN/NO | Infrared LED | 5 KHz | Suited to detect or count The teeth of gear |
| | SU-07XP | PNP/NO | Infrared LED | | |
| | MU-07X | NPN+PNP/NO | Infrared LED | 1 KHz | Suited to detect The label on the translucent material |
| | SU-02X | NPN/NO | Infrared LED | 10 KHz | Suited to detect the mark on transparent packing material |
| | SU-02XP | PNP/NO | Infrared LED | | |
| | SU-02R | NPN/NO | Red LED | | |
| | SU-02RP | PNP/NO | Red LED | | |

- * High speed response : 5K Hz
- * Easy to set optimum detecting status by tuning sensitivity & emitting strength
- * White Light Emitter easy to detect the red or green mark.
- * Co-axial detector detects the mark more stably.
- * Dark ON / Light ON changeably.
- * NPN & PNP Two outputs.
- * MS series AT Mark Sensor



» MS Series AT Mark Sensor

| Model | MS-02W | MS-02W-H | MS-02W-M12 | MS-02WH-M12 |
|-------------------|---------------------------------------|----------|---------------|-------------|
| Setting distance | 25.0mm | | | |
| Operating voltage | 10~30VDC · Ripple<20% of Peak to Peak | | | |
| Response time | 0.25ms | 0.1ms | 0.25ms | 0.1ms |
| Output method | NPN&PNP Two outputs150mA | | | |
| Output status | NO/NC Light ON changeable. | | | |
| Connection method | 4C/5.0×2M | | M12 connector | |

» PH / EX SERIES

| Type | Reflex Type | | Limited distance reflex Type | |
|-------------------|---------------------------------------|----------|------------------------------|--------|
| Outline | 7φ×43mm | M8×43mm | 15×25×6.5mm | |
| Model | PH07-03N | PH08-03N | EX-03N | EX-07N |
| Figure | | | | |
| Sensible Distance | 30mm | 30mm | 30mm | 70mm |
| Operating voltage | 10~30VDC · Ripple<20% of Peak to Peak | | | |
| Output method | NPN open collector 150 mA max | | | |
| Protection Class | IP-67 | | IP-65 | |

» E2X Series Mini Type Photo Sensor

| Outline | 12×30×17 (W×H×D mm) | | | | | |
|----------------------|---------------------------------------|---------|--------------------|---------|---------|----------------|
| Type | Reflex Type | | Mirror Reflex Type | | | Thru Beam Type |
| Model | E2R-10N | E2R-30N | E2G-2MN | E2G-1MR | E2G-1MG | E2T-4MN |
| Figure | | | | | | |
| Sensible Distance | 10cm | 30cm | 2.0M | 1.2M | 1.2M | 4.0M |
| Operating voltage | 10~30VDC · Ripple<20% of Peak to Peak | | | | | |
| Output method | NPN open collector 150 mA max | | | | | |
| Output status | NO or NC selectable | | | | | |
| Operating Temp./Hum. | -20°C~+80°C ; 35%~85%RH | | | | | |
| Protection Class | IP-66 | | | | | |

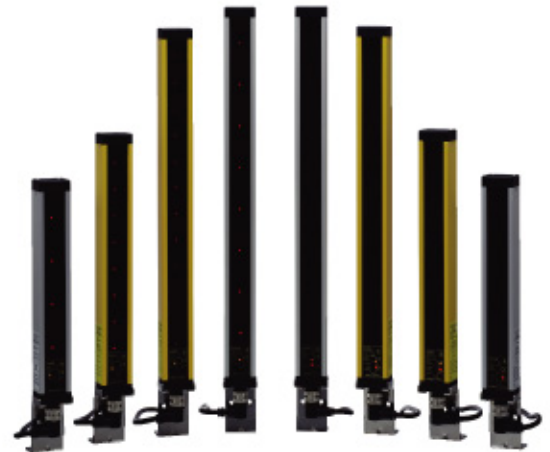
- * Appending EMC enhanced circuit
- * Setting distance : 5M
- * Protection range

NA Series : 125 ~1400mm.

LC Series : 80 ~ 1580mm.

* Two way output : NPN /NO & NPN/NC.

* Output protection : Short circuit protection.






| Type | Model | Beams | Sensing Height | Length | Sensible object | Guiding of Model |
|------------------------------|-------|-------|----------------|---------|-----------------|---|
| Beam pitch 25mm LC Series | LC-08 | 8 | 180 mm | 245 mm | 30 φ | Ex : <u>LC- 08</u> Type LC : Beam pitch 25mm Na : Beam pitch 40mm Beams 08 = 8 Beams ★ PNP output is available accept order to manufacture. |
| | LC-12 | 12 | 280 mm | 345 mm | | |
| | LC-16 | 16 | 380 mm | 445 mm | | |
| | LC-24 | 24 | 580 mm | 645 mm | | |
| | LC-32 | 32 | 780 mm | 845 mm | | |
| | LC-40 | 40 | 980 mm | 1045 mm | | |
| | LC-48 | 48 | 1180 mm | 1245 mm | | |
| | LC-56 | 56 | 1380 mm | 1445 mm | | |
| | LC-64 | 64 | 1580 mm | 1645 mm | | |
| Beam pitch 40mm NA Series | NA-04 | 4 | 120 mm | 205 mm | 45 φ | |
| | NA-08 | 8 | 280 mm | 365 mm | | |
| | NA-12 | 12 | 440 mm | 525 mm | | |
| | NA-16 | 16 | 600 mm | 685 mm | | |
| | NA-20 | 20 | 760 mm | 845 mm | | |
| | NA-24 | 24 | 920 mm | 1005 mm | | |
| | NA-28 | 28 | 1080 mm | 1165 mm | | |
| | NA-32 | 32 | 1240 mm | 1325 mm | | |
| | NA-36 | 36 | 1400 mm | 1485 mm | | |
| | NA-40 | 40 | 1560 mm | 1645 mm | | |

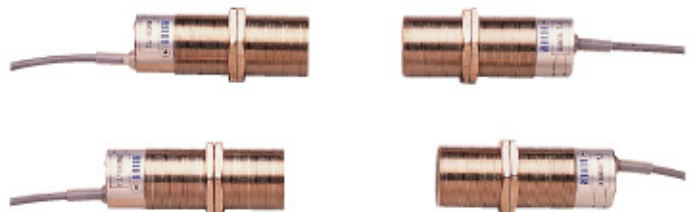
- * Operating Voltage : DC10~30V.
- * High Compact 13.5<W> × 25.0<H> × 30.0<L>.
- * Polarity Reversed Protection Circuit.
- * High Protection — IP-67. available
- * Protected By Short Circuit & Polarity reversed-protection.
- * Long Sensing Distance :
 Reflex Type : 30cm、60cm
 Mirror Reflex Type : 2m
 Thru Beam Type : 6m



| Type | Figure | Model | Protection Class | Sensible Distance | Guiding of Model |
|--------------------|---|---|------------------|-------------------|---|
| Reflex Type |  | MR-10X | IP-65 | 10 CM | Ex : <u>M R- 30 X B-PG</u> SERIES M : MS SERIES P : Plug SERIES Type R : Reflex Type G : Mirror Reflex Type T : Thru Beam Type Sensing Distance 10=10cm 30=30cm 2M=2m 6M=6m Emitter X : Infrared LED. R : Red LED. Output Status non : NO TYPE B : NC TYPE Connection method non : Lead Wire Type PG : M8 Lead Wire Type |
| | | MR-10XP | IP-67 | | |
| | | MR-30X | IP-65 | 30 CM | |
| | | MR-30XP | IP-67 | | |
| | | MR-60X | IP-65 | 60 CM | |
| | | MR-60XP | IP-67 | | |
| |  | PR-10X | IP-65 | 10 CM | |
| | | PR-10XP | IP-67 | | |
| | | PR-30X | IP-65 | 30 CM | |
| | | PR-30XP | IP-67 | | |
| | | PR-60X | IP-65 | 60 CM | |
| | | PR-60XP | IP-67 | | |
| M8 Lead Wire Type |  | MR-10X-PG | IP-65 | 10 CM | |
| | | MR-10XP-PG | IP-67 | | |
| | | MR-30X-PG | IP-65 | 30 CM | |
| | | MR-30XP-PG | IP-67 | | |
| | | MR-60X-PG | IP-65 | 60 CM | |
| | | MR-60XP-PG | IP-67 | | |
| Mirror Reflex Type |  | MG-2MX | IP-65 | 2 M | |
| | | MG-2MXP | IP-67 | 2 M | |
| |  | PG-2MX | IP-65 | 2 M | |
| | | PG-2MXP | IP-67 | 2 M | |
| | M8 Lead Wire Type |  | MG-2MX-PG | IP-65 | 2 M |
| | | | MG-2MXP-PG | IP-67 | 2 M |

| Type | Figure | Model | Protection Class | Sensible Distance | Guiding of Model |
|----------------|--|------------|------------------|-------------------|-------------------------------------|
| Thru Beam Type |  | MT-6MX | IP-65 | 6 M | The content please refer to the P20 |
| | | MT-6MXP | IP-67 | 6 M | |
| |  | PT-6MX | IP-65 | 6 M | |
| | | PT-6MXP | IP-67 | 6 M | |
| |  | MT-6MX-PG | IP-65 | 6 M | |
| | | MT-6MXP-PG | IP-67 | 6 M | |

- * Longer Setting Distance : 150m.
- * Enough Setting Margin : Over 50% of Setting Distance.
- * Two Way Output : NPN & PNP.



» Specification

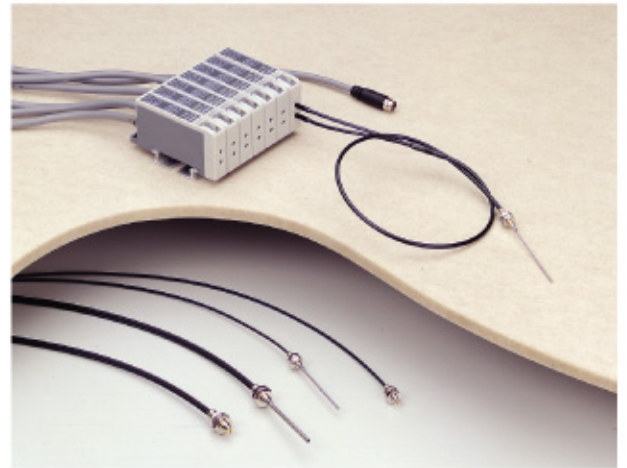
| Model | LT-40MX | LT-80MX | LT-150MX |
|----------------------|---|---------|----------|
| Setting Distance | 40M+50% | 80M+50% | 150M+50% |
| Min.Sensible Object | 10.0 φ | 30.0 φ | 50.0 φ |
| Response Time | 5 ms | 50ms | |
| Operating Voltage | 10~30VDC · Ripple<20% of Peak to Peak | | |
| Output Method | PN&PNP Two Way output 150mA | | |
| Cable | Emitter : 2Cores/4.2 φ ×2M ; Receiver : 4C/5.0×2M | | |
| Operating Temp./Hum. | -20°C~+80°C ; 35%~85%RH | | |

- * All type with sensitivity adjuster, easy to get the best sensing condition.
- * All DC Type with NPN & PNP output, meet any control requirement.
- * All DC Type having over load protection, and polarity reversed-protection.
- * All AC Type with surge protection may avoid damaged.
- * Unique vertical type saving mounted space.
- * High solid compact structure, IP66 applied in poor circumstance suitable.



| Type | Figure | Model | Operating Voltage | Sensible Distance | Guiding of Model | |
|--------------------|--------------------|--------------------|-------------------|-------------------|--|-------|
| Reflex Type | Lead Wire Type | CDR-10X | 10~30VDC | 10 CM | Ex : <u>CDR- 30 X-B-V-M12</u> Type M : MS SERIES P : Plug SERIES Sensing Distance 10=10cm 30=30cm 2M=2m 10M=10m Emitter X : Infrared LED. R : Red LED. Output Status non : NO TYPE B : NC TYPE Sensitivity Direction non : Horizontal V : Vertical Connection method non : Lead Wire Type M12 : M12 connector Type | |
| | | CDR-30X | | 30 CM | | |
| | | CDR-10X-V | | 10 CM | | |
| | | CDR-30X-V | | 30 CM | | |
| | | CAR-10X | | 10 CM | | |
| | M12 connector Type | M12 connector Type | CDR-10X-M12 | 90~250VAC | | 10 CM |
| | | | CDR-30X-M12 | | | 30 CM |
| | | | CDR-10X-V-M12 | | | 10 CM |
| CDR-30X-V-M12 | | | 30 CM | | | |
| Lead Wire Type | Lead Wire Type | DM-1MN | 90~250VAC | 1 M | | |
| | | CDM-1MR | | 1 M | | |
| | | CDM-2MX | | 2 M | | |
| | | CDM-2MX-V | | 2 M | | |
| | | CAM-2MX | | 2 M | | |
| | | CAM-2MX-V | | | | |
| M12 connector Type | M12 connector Type | CDM-2MX-M12 | 90~250VAC | 2 M | | |
| | | CDM-2MX-V-M12 | | 2 M | | |
| 對照式 | Lead Wire Type | CDT-10MX | 10~30VDC | 10 M | | |
| | | CDT-6MX-V | | 6 M | | |
| | M12 connector Type | CDT-10MX-M12 | | 10 M | | |
| | | CDT-6MX-V-M12 | | 6 M | | |

- * High speed response time 0.1 ms/ON.
- * Free cut fiber cable.
- * DIN rail fixer.
- * Thermal drift less than $1 \mu m/^{\circ}C$
- * mF series easy to finish the optimum setting condition by auto-tuning sensitivity & emitting strength.
- * NPN & PNP Two Outputs.



| Type | Figure | Model | Outline | Min. detectable object | Sensing distance | Operating Voltage |
|----------------|--------|--------|---|------------------------|------------------|-------------------|
| Reflex Type | | FPR-51 | M6 $1.0 \phi \times 2 \times 2M$ | 0.03ϕ | 65mm | mF-06R |
| | | FPR-52 | M6 $1.0 \phi \times 2 \times 2M$ 0.25×15 | 0.03ϕ | 65mm | |
| | | FPR-53 | M6 $1.0 \phi \times 2 \times 2M$ | 0.03ϕ | 30mm | mF-06RT |
| | | FPR-54 | M6 $0.5 \phi \times 2 \times 2M$ | 0.03ϕ | 45mm | |
| | | FPR-55 | M6 $1.0 \phi \times 2 \times 2M$ | 0.03ϕ | 65mm | |
| Thru Beam Type | | FPT-01 | M4 $0.5 \phi \times 1 \times 2M$ | 0.05ϕ | 100mm | mF-06R-M8 |
| | | FPT-02 | M4 $1.0 \phi \times 1 \times 2M$ | 0.05ϕ | 300mm | |
| | | FPT-03 | M4 $1.0 \phi \times 1 \times 2M$ | 0.05ϕ | 100mm | FF-03R |
| | | FPT-04 | M4 $1.0 \phi \times 1 \times 2M$ | 0.05ϕ | 250mm | |
| | | FPT-05 | M4 $0.5 \phi \times 1 \times 2M$ | 0.05ϕ | 250mm | FF-06R |
| | | FPT-06 | M3 $0.65 \times 1 \times 2M$ | 0.05ϕ | 250mm | |

- * High Compact, High Reliability & Low Cost Sensor Controller.
- * Input NPN or PNP Selectable.(A : NPN 、 B : PNP)
- * Suited for Proximity Sensor or Photo Sensor.







》 C Series Sensor Controller



| | | | | |
|-----------------|---|-----------|----------------------|--------------------|
| Outline | 40×50mm (under panel type) May select and purchase Y-40 to transform for the plate form Fixed Hole 43×53mm | | | |
| Model | C-6-□□□V | C-10-□□□V | C-11-□□□V | C-12-□□□V |
| Figure | | | | |
| Timer | Non | OFF DELAY | ON DELAY or ONE SHOT | ON DELAY+OFF DELAY |
| Range of Timer | 0~10秒 Secretary Adjustable | | | |
| Power Suppl | 110V or 220V or 380VAC±20% 50/lectable.(A : NPN 、 B : PNP) | | | |
| Input Method | NPN or PNP Sey | | | |
| DC Power Output | 12VDC/40mA Max | | | |

| | | | |
|-----------------|------------------------------------|-----------------------------------|---|
| Outline | 61×60mm (under panel type) | | |
| Model | C-1 | C-2 | C-3 |
| Figure | | | |
| Timer | Non | ONE SHOT or OFF DELAY or ON DELAY | Timer1 : ON DELAY Timer2 : ONE SHOT or Off DELAY or ON DELAY |
| Range of Timer | 0~1秒 or 0~10秒 Secretary Adjustable | | |
| Power Supply | 110V or 220VAC±20% 50/60Hz | | |
| Input Method | NPN Input2< AND IN> | | |
| DC Power Output | 12VDC/150mA Max | | |

» FR Series Float less Level Relay

| | | | | |
|-----------------------|---|---|--|---|
| Outline | 40×50mm (under panel type) May select and purchase Y-40 to transform for the plate form | | | Fixed Hole 43×53mm |
| Type | Standard | Long Distance | High Sensitivity | Two Wires |
| Model | FR-1-□□□V | FR-1L-□□□V | FR-1H-□□□V | FR-2-□□□V |
| Figure |  |  |  |  |
| ON Resistance | <30KΩ | <4KΩ | <70KΩ | <30KΩ |
| OFF Resistance | >60KΩ | >15KΩ | >300KΩ | >60KΩ |
| Length of Cable | <1000M | <4000M | <50M | <800M |
| Power Supply | 110V or 220V or 380VAC±20% 50/60Hz | | | |
| Electrode Consumption | 14VAC | | | |
| Response Time | ON<80ms、OFF<160ms | | | |
| Dielectric Strength | 2.5KV/1min. | | | |
| Circumstance | -20℃~+80℃ ; 35%~85%RH | | | |

» PR Series Voltage & Phase Relay

| | | | |
|---------------------|---|--|---|
| Outline | 40×50mm (under panel type) May select and purchase Y-40 to transform for the plate form | | Fixed Hole 43×53mm |
| Product | Phase & Voltage Relay | | Phase Relay |
| Model | PVR-3-□□□V | | PR-1-□□□V |
| Figure |  | |  |
| Power Supply | 230VAC or 380VAC or 440VAC or 480VAC 50/60Hz | | |
| High Voltage Limit | ±20% | | |
| Low Voltage Limit | ±20% | | |
| ON Delay Time | 1.0~10.0 Sec Adjustable | | |
| Reset Delay Time | 1.0~10.0 Sec Adjustable | | 2 Sec (Fixed) |
| Output Status | Normal ON Relay (RUN) | | |
| Dielectric Strength | 2.5KV/1min. | | |
| Circumstance | -20℃~+80℃ ; 35%~85%RH | | |

FOTEK HC Series Digital Counter

- * Hi-power supply : 100mA/12VDC.
- * Hi-speed response time : 0.2ms.
- * Hi-reliability with hi-anti-noise circuit.
- * Easy to test with input pilot lamp.
- * Easy to longer distance monitor with large size LED display.
- * Long time memory with Ni-Cd battery.





» General specification

| | |
|---------------------|--|
| Operation voltage | 110V 或 220V AC $\pm 20\%$ 50/60 Hz |
| DC power supply | 100mA/12VDC Max |
| Response frequency | High Speed < 2.5Kcps ; Low Speed < 60cps. |
| Memory Method | Ni-Cd battery. |
| Output control | N \ R \ C < Selectable > |
| Contact Rated | 5A/250VAC Max |
| Dielectric Strength | Over 2.5KV/1min , Between Power And Each Terminal. |
| Operating Temp/Hum. | -20°C ~ +80°C ; 35% ~ 85%RH |

» Total Counter / Single Preset Counter

| | | | | |
|------------------|----------------------------------|----------|----------|----------|
| Outline | 72 × 72 mm Fixed hole 68 × 68 mm | | | |
| Model | HC-4T | HC-5T | HC-6T | HC-61P |
| Nr. of displayer | 4 digits | 5 digits | 6 digits | 6 digits |
| Figure | | | | |
| Outline | 72 × 72 mm Fixed hole 68 × 68 mm | | | |
| Model | HC-21P | HC-31P | HC-41P | HC-51P |
| Nr. of displayer | 2 digits | 3 digits | 4 digits | 5 digits |
| Figure | | | | |

» Dual Preset Counter

| | | |
|------------------|---|---|
| Outline | 72 × 72 mm Fixed hole 68 × 68 mm | |
| Model | HC-42P | HC-52P |
| Nr. of displayer | HC-42P | HC-52P |
| Figure |  |  |

» Power ON Reset Preset Digital Counter

| | | | |
|------------------|---|---|---|
| Outline | 88 × 58 mm Fixed hole 64 × 52 mm | | |
| Model | SK-2D | SK-3D | SK-4D |
| Nr. of displayer | 2 digits | 3 digits | 4 digits |
| Figure |  |  |  |

» Preset Digital Counter < DC Supply 12V/60mA >

| | | | | |
|------------------|---|---|--|---|
| Outline | 88 × 58 mm Fixed hole 64 × 52 mm | | | Fixed hole 45 × 45 mm |
| Model | SC-2D | SC-3D | SC-4D | H5C-4D |
| Nr. of displayer | 2 digits | 3 digits | 4 digits | 4 digits |
| Figure |  |  |  |  |

- * Multi-Function
- * Single or Two Phase Input Selectable.
- * Increase or Decrease Counting Selectable.
- * Decimal Point Selectable.
- * Preset Value <SV2> Settable.
- * Divisor Range : 1~9999.
- * Multiplier Range : 0.001~9.999
- * Output Delay Time Range : 0.01~99.99sec
- * Comply With **CE** Certificate EMC/EMI/ESD/LVD



» General Specification

| | |
|---------------------|--|
| Operation voltage | 110V or 220V AC (Selectable) ±20% 50/60 Hz |
| DC power supply | 60mA/12VDC Max |
| Response frequency | High Speed <2.5Kcps ; Low Speed <60cps. |
| Memory Method | EEPROM |
| Output control | N、R、C <Selectable> |
| Contact Rated | 5A/250VAC Max |
| Dielectric Strength | Over 2.5KV/1min、Between Power And Each Terminal. |
| Operating Temp/Hum. | -20℃~+80℃ ; 35%~85%RH |




» Single Preset Counter / Preset & Total Counter

| | | | |
|-------------|----------------------------------|---------------------------|--|
| Outline | 72 × 72 mm Fixed hole 68 × 68 mm | | |
| Model | SC-341 | SC-361 | SC-3616 |
| description | 4 digits Single Preset | 6 digits Single Preset | 6 digits Single Preset & 6 digits Total |
| Figure | | | |



» Dual Preset Counter

| | | | |
|-------------|----------------------------------|-------------------------|-------------------------|
| Outline | 72 × 72 mm Fixed hole 68 × 68 mm | | |
| Model | SC-342 | SC-362 | SC-352 |
| description | 4 digits Dual Preset | 6 digits Dual Preset | 5 digits Dual Preset |
| Figure | | | |




» Dual Preset & Total Counter / Twin Counter

| | | | |
|-------------|---|---|---|
| Outline | 72 × 72 mm Fixed hole 68 × 68 mm | | |
| Model | SC-3526 | SC-3626 | SC-326 |
| description | 5 digits Dual Preset & 6 digits Total | 6 digits Dual Preset & 6 digits Total | 6 digits Single Preset × 2 |
| Figure |  |  |  |

» Counter & Meter

| | | |
|-------------|---|---|
| Outline | 72 × 72 mm Fixed hole 68 × 68 mm | |
| Model | SC-362M | SC-362Ma |
| description | 6 digits Dual Preset & Tachometer | 6 digits Dual Preset & Line Speed Meter |
| Figure |  |  |

» 96 × 48 SERIES Multi-Function Counter

| | | | |
|-------------|---|--|---|
| Outline | 96 × 48 SERIES Multi-Function Counter | | |
| Model | SC-260 | SC-261 | SC-262 |
| description | 6 digits Total | 6 digits Single Preset | 6 digits Dual Preset |
| Figure |  |  |  |

- * Dual Slope A/D Converter .Accuracy Less Than 0.2% of F.S.
- * Large LED Display,25.4mm.Easy To Monitor.
- * Amplification, 10 ~10, Selectable By DIP Switch.
- * Digital Scale Meter,ARM-24T Suited To Display The RPM of Inverter or Generate.



» AC/DC Voltage Meter

| | | | | | | |
|---------------------|----------------------------------|------------------|---------------------|---------|---------|---------|
| Outline | 96 × 48 mm Fixed hole 92 × 45 mm | | | | | |
| Type | AC Voltage Meter | DC Voltage Meter | Digital Scale Meter | | | |
| Model | AV-24T | DV-24T | DRM-24T | ARM-24T | ARM-25T | DRM-25T |
| Display Range | 1999 | 1999 | 1999 | 1999 | 9999 | 9999 |
| Power Supply | AC110V/220V 50/60 Hz | | | | | |
| Measuring Range | 400V max | | | | | |
| Display Method | 25.4mm 7-Segment Red LED | | | | | |
| Converting Method | Dual Slope A/D Converter | | | | | |
| Accuracy | ±0.2% of F.S. | | | | | |
| Response Time | 1 Sec | | | | | |
| Dielectric Strength | Over2.5KV/1min. | | | | | |
| Circumstance | -20°C ~ +80°C ; 35% ~ 85%RH | | | | | |

» AC/DC Current Meter

- * Dual Slope A/D Converter .Accuracy Less Than 0.2% of F.S.
- * Large LED Display,25.4mm.Easy To Monitor.
- * Input 4~20mA,To Measure Moisture, Temperature or Pressure.
- * Easy To Measure High Current with CT.



| | | | | | |
|---------------------|----------------------------------|---------|------------------|----------|----------|
| Outline | 96 × 48 mm Fixed hole 92 × 45 mm | | | | |
| Type | AC Current Meter | | DC Current Meter | | |
| Model | AA-24T | AA-24T | DA-24T | DA-24T-1 | DA-24T-2 |
| Display Range | 0~5A | 0~200mA | 0~5A | 0~200mA | 4~20mA |
| Power Supply | AC110V/220V 50/60 Hz | | | | |
| Measuring Range | 1999 | | | | |
| Display Method | 25.4mm 7-Segment Red LED | | | | |
| Converting Method | Dual Slope A/D Converter | | | | |
| Accuracy | ±0.2% of F.S. | | | | |
| Response Time | 1Sec | | | | |
| Dielectric Strength | Over2.5KV/1min. | | | | |
| Circumstance | -20°C ~ +80°C ; 35% ~ 85%RH | | | | |

- * Multiplier settable
- * Response time settable.
- * Memory function settable.
- * Output status changeable.
- * Control output changeable.
- * Counting method Up / Down selectable.



» 4 digits Single Preset Multi-Function Counter

| | | | |
|---------------------|--|----------|----------|
| Outline | 88×58×mm | 88×58 mm | 48×48 mm |
| Fixed hole | 52×64 mm | 64×52 mm | 45×45 mm |
| Model | MC50-4D | MC60-4D | MC48-4D |
| Operation voltage | 24VDC/AC or 90~265V AC 50/60 Hz | | |
| DC power supply | 60mA/12VDC Max | | |
| Response time | Ton=0.1ms~999.9ms settable | | |
| Input method | NPN single phase. | | |
| Output control | N、R、C selectable | | |
| Output status | NO or NC selectable | | |
| Output method | Relay 1ab 3A/250VAC Max | | |
| Dielectric Strength | Over 2.5KV/1min、Between Power And Each Terminal. | | |
| Operating Temp/Hum. | -20℃~+80℃；35%~85%RH | | |

- * Multi-Meter Tachometer, Duty Meter & Line Speed Meter.
- * Pulse per Revolution Settable.
- * Decimal point Auto Shift.
- * Unit of Diameter : mm



| | | | |
|---------------------|--|-------------|---------------------|
| Outline | 72×72×120 mm | 96×48×90 mm | 48×28×85 mm |
| Fixed hole | 68×68 mm | 92×45 mm | 45×23 mm |
| Model | SM-30 | SM-20 | SM-10 |
| Operation voltage | 10V / 220V AC ±20% 50/60 Hz | | 90~265V AC 50/60 Hz |
| DC power supply | 60mA/12VDC Max | | 50mA/12VDC Max |
| Response frequency | High Speed <2.5Kcps；Low Speed <60cps. | | |
| Dielectric Strength | Over 2.5KV/1min、Between Power And Each Terminal. | | |
| Operating Temp/Hum. | -20℃~+80℃；35%~85%RH | | |

Multi-function

- * Counting method : Two phases UP/Down or Single phase UP or Down.
- * Decimal point settable.
- * Multiplier range : 0.0001 ~ 99.9999
- * Response time settable : 0.2ms ~ 999.9ms.
- * Response frequency : 0.1Hz ~ 5KHz.
- * Output control settable : N、R、C、A
- * Output reset time settable : 0.01 ~ 99.99sec
- Comply with **CE** certificate
- * EMC/EMI/ESD/LVD



» General data

| | |
|---------------------|--|
| Operation voltage | 90~265VAC 50/60 Hz |
| DC power supply | 100mA/12VDC Max |
| Response frequency | High Speed < 2.5Kcps ; Low Speed < 60cps. |
| Memory Method | EEPROM |
| Output control | N、R、C、A <Selectable> |
| Output method | Relay 1ab 3A/250VAC Max |
| Dielectric Strength | Over 2.5KV/1min、Between Power And Each Terminal. |
| Operating Temp/Hum. | -20°C~+80°C ; 35%~85%RH |

» DIN 48×48

| | | | | |
|-------------|----------------------------------|------------------------|----------------------|----------------------|
| Outline | 48 × 48 mm Fixed hole 45 × 45 mm | | | |
| Model | MC-441 | MC-461 | MC-442 | MC-462 |
| description | 4 digits Single Preset | 6 digits Single Preset | 4 digits Dual Preset | 6 digits Dual Preset |
| Figure | | | | |

» DIN 72×72

| | | | | |
|-------------|----------------------------------|------------------------|----------------------|----------------------|
| Outline | 72 × 72 mm Fixed hole 68 × 68 mm | | | |
| Model | MC-341 | MC-361 | MC-342 | MC-362 |
| description | 4 digits Single Preset | 6 digits Single Preset | 4 digits Dual Preset | 6 digits Dual Preset |
| Figure | | | | |

» DIN 48×96

| | | |
|-------------|----------------------------------|----------------------|
| Outline | 96 × 48 mm Fixed hole 92 × 45 mm | |
| Model | MC-261 | MC-262 |
| description | 6 digits Single Preset | 6 digits Dual Preset |
| Figure | | |

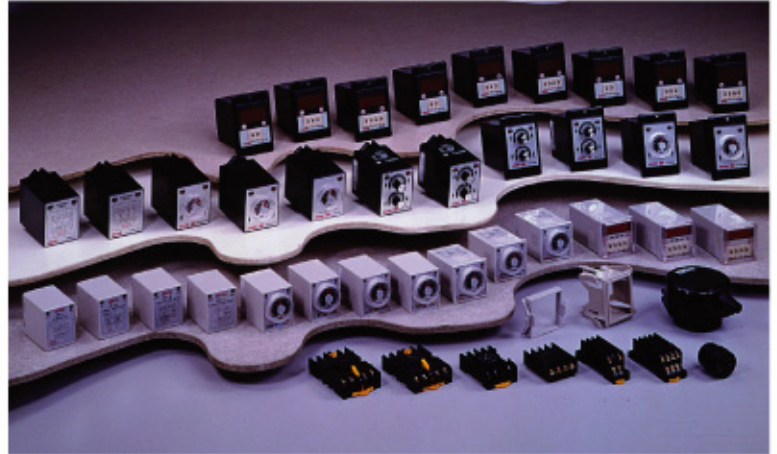
WE Series Wheel Type Length Encoder

- * High Response Frequency : 10K Hz
- * High Speed of Revolution : 6K RPM
- * Voltage & Current Output with NPN+PNP.
- * High Reliability with Anti-Noise Circuit.
- * Multi-Measuring Unit/Pulse 1mm :
0.01M、0.1M、1M、0.001Yd、0.01Yd、0.1Yd、1Yd
- * Model of Two Phase Output :
WE-M2T、WE-M3T、WE-M4T、WE-Y2T、WE-Y3T、WE-Y4T



| Type | Mpdel | Unit/Pulse | Output Phase | Operation voltage | RPM. max | Response Frequencies |
|-------------|--------|-------------|----------------------|-------------------|----------|----------------------|
| Meter Wheel | WE-M1 | 1米 (M) | Single NPN+PNP | 10~30VDC | 6K RPM | 2K Hz |
| | WE-M2 | 0.1米 (M) | | | | |
| | WE-M3 | 0.01米 (M) | | | | |
| | WE-M2T | 0.1米 (M) | Two phase NPN+PNP | | 3K RPM | 10K Hz |
| | WE-M3T | 0.01米 (M) | | | | |
| | WE-M4T | 0.001米 (M) | | | | |
| Yard Wheel | WE-Y1 | 1碼 (Yd) | Single NPN+PNP | 10~30VDC | 6K RPM | 2K Hz |
| | WE-Y2 | 0.1碼 (Yd) | | | | |
| | WE-Y3 | 0.01碼 (Yd) | | | | |
| | WE-Y2T | 0.1碼 (Yd) | Two phase NPN+PNP | | 3K RPM | 10K Hz |
| | WE-Y3T | 0.01碼 (Yd) | | | | |
| | WE-Y4T | 0.001碼 (Yd) | | | | |

- * High Receptivity : 0.2% of F.S. Max.
- * Reset Time : 0.1S Max.
- * Setting Accuracy : 5% of F.S. Max.
- * CE Approved : EMC、ESD&LVD



》 Specification





| | |
|---------------------|--|
| Power supply | 12 or 24VDC or 110VAC or 220VAC or 380VAC 50/60 Hz |
| Output control | Relay |
| Control Output | 5A/250VAC Max |
| Receptivity | 0.2%以下 |
| Setting Accuracy | 0.5%以下 |
| Reset time | 0.1Sec以下 |
| Dielectric Strength | 2.5KV/1min. |
| Circumstance | -20℃~+80℃ ; 35%~85%RH |

》 H3 Series





| Model | H3-M□-□□□V | H3-□□-□□□V | H3-FK-M3-□□□V | H3-TRD-30S-□□□V |
|-------------|---|--|---------------------|---|
| description | Multi-Range ON Delay Timer | Single-Range ON Delay Timer | Multi-Range Flicker | Y-△Starter |
| Socket | PF-085A (under panel type) P3G-08 or US-08 (plate form type) < Choice purchase goods > | | | |
| Outline | 40×50mm | | | |
| Figure | | | | |
| Range | M1 : 1S/10S/1M/10M M3 : 3S/30S/3M/30M M6 : 6S/60S/6M/60M M1H : 1M/10M/1H/10H M3H : 3M/30M/3H/30H M6H : 6M/60M/6H/60H | 1S、3S、6S、10S 30S、60S、3M、6M 10M、30M、60M 3H、6H、10H、60H、100H | 3S、30S、3M、30M | 30S Change Time : .0.2S 0.1~0.5S is Available ON Demanded |

※ If must use the plate form type, please in addition selects and purchases the Y-40 bracket fixing ; Fixed hole 43×53mm





» H5B Series DIN48×48 ON Delay Timer

| | | | | |
|--------------|---|---|---|---|
| Type | Multi-Range ON Delay Timer | Multi-Range Flicker Timer | Free Power Multi-Range ON Delay Timer | Free Power Multi-Range Flicker Timer |
| Power Supply | 12 or 24VDC or 110VAC or 220VAC or 380VAC 50/60 Hz | | 12~240VDC&24~240VAC | |
| Model | H5B-M□-□□□V | H5B-FK-M3-□□□V | TM48-M□ | TM48-FK-M3 |
| Outline | DIN 48×48mm panel type : Fixed Hole : 45×45mm Fixed support : Y-48 | | | |
| Figure |  |  |  |  |
| Range | M1 : 1S/10S/1M/10M M3 : 3S/30S/3M/30M M6 : 6S/60S/6M/60M M1H : 1M/10M/1H/10H M3H : 3M/30M/3H/30H M6H : 6M/60M/6H/60H | 3S、30S、3M、30M | M1 : 1S/10S/1M/10M M3 : 3S/30S/3M/30M M6 : 6S/60S/6M/60M M1H : 1M/10M/1H/10H M3H : 3M/30M/3H/30H M6H : 6M/60M/6H/60H | 3S、30S、3M、30M |




» STP Series 計時器

| | | | | |
|--------------|---|---|--|---|
| Type | Multi-Range ON Delay Timer | | Multi-Range Flicker Timer | |
| | under panel type | panel type | under panel type | panel type |
| Model | STPN-M□-□□□V | STPY-M□-□□□V | STPN-FK-M3-□□□V | STPY-FK-M3-□□□V |
| Power Supply | 12 or 24VDC or 110VAC or 220VAC or 380VAC 50/60 Hz | | | |
| Outline | 50×60mm | Fixed Hole 53×63mm | 50×60mm | Fixed Hole 53×63mm |
| Figure |  |  |  |  |
| Range | M1 : 1S/10S/1M/10M M3 : 3S/30S/3M/30M M6 : 6S/60S/6M/60M M1H : 1M/10M/1H/10H M3H : 3M/30M/3H/30H M6H : 6M/60M/6H/60H | | 3S、30S、3M、30M | |



» TDV/TDF Series Twin Timer & Defrosting Timer

| | | | | |
|--------------|--|---|--|---|
| Type | Multi-Range Twin Timer | | Multi-Range Defrosting Timer | |
| Model | TDVN-M□-□□□V | TDVY-M□-□□□V | TDFN-12H-□□□V | TDFY-12H-□□□V |
| Power Supply | 12 or 24VDC or 110VAC or 220VAC or 380VAC 50/60 Hz | | | |
| Outline | under panel type 50×60mm | panel type Fixed Hole 53×63mm | under panel type 50×60mm | panel type Fixed Hole 53×63mm |
| Figure |  |  |  |  |
| Range | M3 : 3S/30S/3M/30M M6 : 6S/60S/6M/60M M3H : 3M/30M/3H/30H M6H : 6M/60M/6H/60H | | Cooling : 12H Defrosting : 30M | |

» TFN / H3-TF / H5B-TF SERIES OFF Delay Timer

| | | | |
|----------------|---|--|---|
| Outline | under panel type 50×60mm | under panel type 40×50mm | DIN 48×48 mm |
| Model | TFN-□□-□□□V | H3-TF-□□-□□□V | H5B-TF-□□-□□□V |
| Power Supply | 12 or 24VDC or 110VAC or 220VAC 50/60 Hz | | |
| Figure |  |  |  |
| Control output | 5A/250V | 1A/250V | 5A/250V |
| Range | 3S、6S、30S、60S、3M | | |

» H2Y/H3Y SERIES

| | | |
|--------------|---|--|
| Model | H2Y-□□-□□□V | H3Y-□□-□□□V |
| Power Supply | 12 or 24VDC or 110VAC or 220VAC or 380VAC 50/60 Hz | |
| Outline | Fixed Hole : 42.0×52.0 mm substitution STPY Type | Fixed Hole : 42.0×52.0mm |
| Figure |  |  |
| Range | <p>Multi-Range</p> <p>M1 : 1S/10S/1M/10M M1H : 1M/10M/1H/10H</p> <p>M3 : 3S/30S/3M/30M M3H : 3M/30M/3H/30H</p> <p>M6 : 6S/60S/6M/60M M6H : 6M/60M/6H/60H</p> | <p>Single-Range</p> <p>1S、3S、6S、10S、30S、60S</p> <p>3M、6M、10M、30M、60M</p> <p>3H、6H、10H、60H、100H</p> |

- * High Receptivity : 0.2% of F.S. Max.
- * Reset Time : 0.1S Max.
- * Setting Accuracy : 5% of F.S. Max.
- * CE Approved : EMC , RSD & LVD



» MY Series MY SERIES Specification

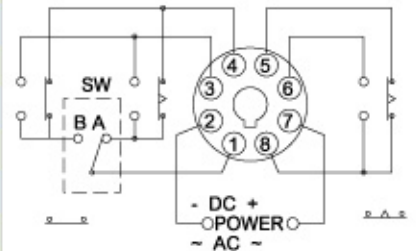
| | | |
|---------------------|--|---|
| Power Supply | 12 or 24VDC or 110VAC or 220VAC 50/60 Hz | <p>Guiding of Model : MY - 10S - 2P - 220V</p> <p>Series</p> <p>Range</p> <p>Contact Poles.</p> <p>Operating Voltage</p> |
| Range | 1S、3S、6S、10S、30S、60S、3M、6M、10M、30M、60M、3H、6H、10H、30H | |
| Contact Rated | 7A/250VAC Max 2Poles or 4Poles | |
| Receptivity | 0.2%以下 | |
| Setting Accuracy | 0.5%以下 | |
| Reset Timer | 0.1Sec以下 | |
| Dielectric Strength | 2.5KV/1min. | |
| Circumstance | -20℃~+80℃ ; 35%~85%RH | |

- * Multi-timing range
- * Timing method selectable.
- * Output status changeable.
- * Control output changeable.



» General data

| | |
|------------------|---|
| Power supply | 24VDC or 90VAC~250VAC 50/60 Hz |
| Control output | Two time limit or time limit & instantaneous contact selectable |
| Output method | Two Relay 5A/250VAC |
| Reset method | Power OFF reset |
| Receptivity | 0.1% of F.S. |
| Setting accuracy | 0.05% of F.S. |
| Reset time | 0.1Secmax |
| Circumstance | -20°C~+80°C ; 35%~85%RH |



» TM series Power ON delay Digital timer

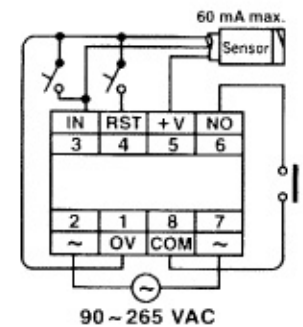
| Model | TM50-2D | TM50-3D | TM50-4D |
|---------|---|---|---|
| Range | 0~99 | 0~999 | 0~9999 |
| Unit | 0.1S、1S、0.1M、1M、0.1H、1H | 0.01S、0.1S、1S、0.1M、1M、0.1H、1H | 0.01S、0.1S、1S、0.1M、1M、0.1H、1H、99M59S、99H59M |
| Outline | panel type : Fixed Hole 53×63mm under panel type : 50×60mm×84 | | |
| Figure | | | |
| Model | TM48-4D | TM60-3D | TM60-4D |
| Range | 0~99 | 0~999 | 0~9999 |
| Unit | 0.01S、0.1S、1S、0.1M、1M、0.1H、1H、99M59S、99H59M | 0.01S、0.1S、1S、0.1M、1M、0.1H、1H | 0.01S、0.1S、1S、0.1M、1M、0.1H、1H、99M59S、99H59M |
| Outline | panel type : Fixed Hole 45×45mm under panel type : 48×48mm | panel type : Fixed Hole 63×53mm under panel type : 60×50mm×84 | |
| Figure | | | |

- * Multifunction
- * Multi-timing range
- * Timing method selectable.
- * Output status changeable.
- * Control output changeable.
- * Memory function settable.



» General data

| | |
|----------------------|--------------------------------|
| Power supply | 24VDC or 90VAC~250VAC 50/60 Hz |
| DC power output | 5A/250VAC Max |
| Output method | 0.1%以下 |
| Repetitiveness | 0.05%以下 |
| Setting accuracy | 0.1Sec以下 |
| Dielectric strength | 2.5KV/1min. |
| Operating Temp./Hum. | -20°C~+80°C ; 35%~85%RH |



» TMP Series

| Model | TMP50-2D | TMP50-3D | TMP50-4D |
|---------|--|--|---|
| Range | 0~99 | 0~999 | 0~9999 |
| Unit | 0.1S、1S、0.1M、1M、0.1H、1H | 0.01S、0.1S、1S、0.1M、1M、0.1H、1H | 0.01S、0.1S、1S、0.1M、1M、0.1H、1H、99M59S、99H59M |
| Outline | panel type : Fixed Hole 53×63mm under panel type : 50×60mm×84 | | |
| Figure | | | |
| Model | TMP48-4D | TMP60-3D | TMP60-4D |
| Range | 0~99 | 0~999 | 0~9999 |
| Unit | 0.01S、0.1S、1S、0.1M、1M、0.1H、1H、99M59S、99H59M | 0.01S、0.1S、1S、0.1M、1M、0.1H、1H | 0.01S、0.1S、1S、0.1M、1M、0.1H、1H、99M59S、99H59M |
| Outline | panel type Fixed Hole 45×45mm under panel type : 48×48mm | panel type Fixed Hole 63×63mm under panel type : 60×50mm×84 | |
| Figure | | | |

- * Timing unit is selectable
- * Two time limit or time limit & instantaneous contact selectable
- * Timing method UP / Down Selecting
- * 90 ~ 250VAC 50/60HZ widespread working voltage.



» **General data**

| | |
|---------------------|---|
| Power supply | 24VDC or 90VAC~250VAC 50/60 Hz |
| Timing unit | S => 0.1S=> 0.01S => M=> 0.1M=> 0.1H=> H Selectable |
| Receptivity | 0.1% of F.S. |
| Setting accuracy | 0.05% of F.S. |
| Reset time | 0.1Secmax |
| Dielectric strength | 2.5KV/1min. |
| Circumstance | -20°C~+80°C ; 35%~85%RH |












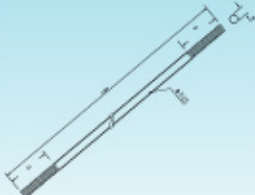



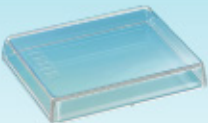
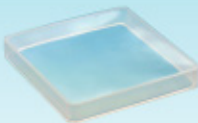
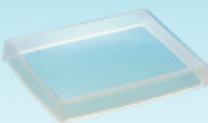
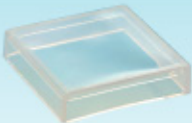











» **SY Series Power ON Delay Timer**

| Model | SY-2D-□ | SY-3D-□ | SY-4D-□ | H5T-4D |
|---------|--|---------|---------|-----------|
| Range | 0~99 | 0~999 | 0~9999 | 0~9999 |
| Outline | panel type : Fixed Hole 53×63mm under panel type : 50×60mm×84 | | | DIN 48×48 |
| Figure | | | | |

» **STP Series Multi-Function Digital Timer**

| Model | STP-2D-□ | STP-3D-□ | STP-4D-□ | H5M-4D |
|---------|--|----------|----------|-----------|
| Range | 0~99 | 0~999 | 0~9999 | 0~9999 |
| Outline | panel type : Fixed Hole 53×63mm under panel type : 50×60mm×84 | | | DIN 48×48 |
| Figure | | | | |

» Selecting and purchasing

| | | | | | |
|---------------|---|---|---|---|---|
| Model | PF-085A | P2CF-08 | 8PFA | P3G-08 | US-08 |
| Use | Under panel type H3 Series | Under panel type H5B、STP Series | Under panel type STP Series | panel type | panel type |
| Figure |  |  |  |  |  |
| Model | PYF-08A | PYF-14A | FS-12P | Y-57 | FA-C |
| Use | Under panel type MY-2P Series | Under panel type MY-4P Series | C1/C2/A8/A9 | H5B transforms the STPY card bracket fixing | Optical fiber cut-off key |
| Figure |  |  |  |  |  |
| Model | PS-3S | SU-1M | Y-40 | Y-48 | Y-20 |
| Use | Electrode fixed stand | Electrode stainless steel rod | H3 Series Fixed support | 48×48 Series Fixed support | MY Series Fixed support |
| Figure |  |  |  |  |  |
| Model | SY-HL | SY-SL | H5-SL | HC-SL | MR-3 |
| Use | SY/SK/STP/SC The protection tempts | SY/SK/STP/SC Cover | H5 Cover | HC Cover | Mirror 51.5×61mm |
| Figure |  |  |  |  |  |
| Model | M84R-□M | M124R-□M | M124R-□M-L | MR-1 | MR-2 |
| Use | M8、4C Lead Wire | M12、4C Lead Wire | M124C Lead Wire <Vertical Type> | Mirror 86×46mm | Mirror 35×42mm |
| Figure |  |  |  |  |  |
| Model | SF380 | TFB301 | WS18-32 | S1038-□□A | S1451-□□A |
| Use | 10×38 Fuse-base | 14×51 Fuse-base | 10×38 Fuse-base | 10×38 Semiconductor Fuse | 14×51 Semiconductor Fuse |
| Figure |  |  |  |  |  |