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**Product Digest**

**2015**

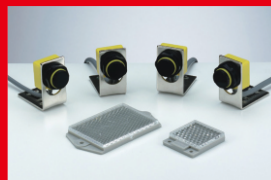
**UL US CE EAC Rohs**



**Fiber sensor**



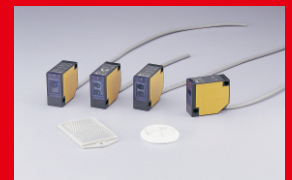
**K2 Photo sensor**



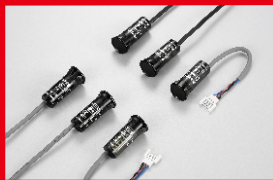
**RTM Photo sensor**



**E3 Free power Photo sensor**



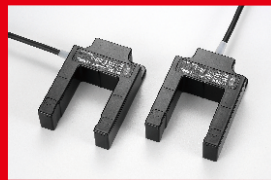
**A3 Free power Photo sensor**



**Auto-door Photo sensor**



**U type Photo sensor**



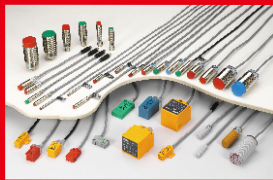
**Leveler Photo sensor**



**M18 Photo sensor**



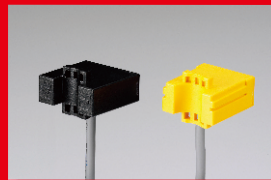
**M18 (Metal) Photo sensor**



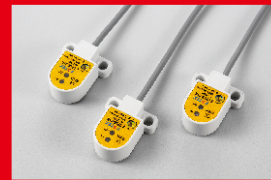
**Proximity sensor**



**Proximity sensor**



**Level Proximity sensor**



**Leakage sensor**



**M8/7Φ Photo sensor**



**Light curtain**



**PID Temperature controller**



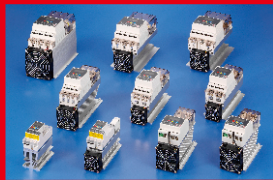
**NT Temperature controller**



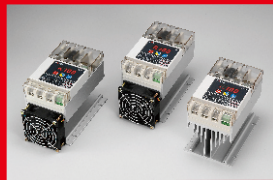
**Heat runner controller**



**TC Temperature controller**



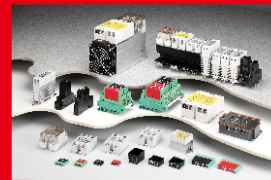
**Power regulator (SCR)**



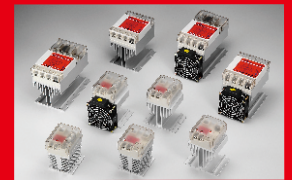
**Power regulator (SCR)**



**Power regulator (SCR)**



**Solid state module (SSR)**



**Solid state module (SSR)**



**Solid state module (SSR)**



**Voltage regulator**



**Encoder**



**Length encoder**



**Scale sensor**



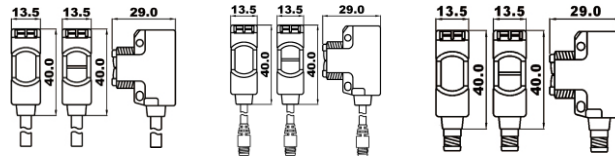
### Ex. CDR - 30 X B - V - M12

1	Series	CDR= M18 Tubular reflex type ; MF = MF fiber sensor
2	Sensing distance	01 = 10 mm 03 = 30 mm 06 = 60 mm 10 = 10cm 30 = 30cm 60 = 60cm 1M = 100cm 2M = 200cm 3M = 300cm 6M = 600cm 8M = 800cm 10M = 10m 20M = 20m 30M = 30m 30M = 30m 40M = 40m 60M = 60m 150M = 150m
3	Emitter	X = IR ( Infrared ) ; R = Red ; G = Green ; B = Blue ; W = White
	Output	N = NPN ; P = PNP ; Non = NPN+PNP or Relay
4	Status	Non = NO type ; B = NC type
	Direction	Non = Horizontal ; V = Vertical
5	Protection	Non = IP-65 ; P = IP-67
6	Wire method	Non = Wire ; PG = M8 wire ; M12 = M12connector

Series	Type	Series	Type	Series	Type	Series	Type	Series	Type	Series	Type	Series	Type
UR	Reflex	A3R	Reflex	K2R	Reflex	MS	Mark sensor	MF	Fiber Amp	LC	Light curtain	LT	Thru beam
UG	Mirror reflex	A3G	Mirror reflex	K2G	Mirror reflex	EX	Reflex	VF	Fiber Amp	NA	Light curtain	T12	Door sensor
UT	Thru beam	A3T	Thru beam	K2T	Thru beam	SV	Sensor head	FF	Fiber Amp	LA	Light curtain	WE	Length sensor
MR	Reflex	E3R	Reflex	CDR	Reflex	SC	Sensor head	FPR	Reflex Fiber	LA2	Light curtain		
MG	Mirror reflex	E3G	Mirror reflex	CDM	Mirror reflex	SB	Sensor head	FPT	Thru Fiber	LA4	Light curtain	KTS	Flow meter
MT	Thru beam	E3T	Thru beam	CDT	Thru beam	A	Amplifier	PH07	Reflex	EMS	Scale sensor	KTP	Flow meter
PR	Reflex	M3R	Reflex	KDR	Reflex	C	Controller	PH08	Reflex 射	EMK	Scale sensor	KTM	Flow meter
PG	Mirror reflex	M3G	Mirror reflex	KDM	Mirror reflex	FL	Level sensor	SU-02	U shape	MEN	Encoder	KTW	Flow sensor
PT	Thru beam	M3T	Thru beam	FR	Reflex	CP13	Level sensor	SU-07	U shape	MES	Encoder		
E2R	Reflex	R18	Reflex	FG	Mirror reflex	CPLS	Leakage sensor	SU-30	U shape	MET	Encoder	M8	Connector wire
E2G	Mirror reflex	M18	Mirror reflex	FT	Thru beam	FC	Reed sensor	KU-30	U shape	MAT	Encoder	M12	Connector wire
E2T	Thru beam	T18	Thru beam	FM	Mark sensor	MS08	Hall sensor						

### US series

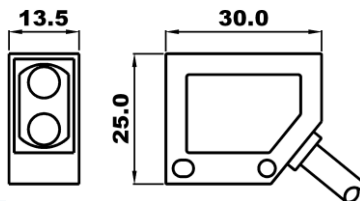
- ⊙ Voltage : 10~30VDC
- ⊙ Output : NPN or PNP
- ⊙ Status : NO/NC changeable
- ⊙ Protection : IP-66
- ⊙ UL approved



Type	Model	Output	Sens.	Lead	Emit.	Adj.	Type	Model	Output	Sens.	Lead	Emit.	Adj.	Type	Model	Output	Sens.	Lead	Emit.	Adj.	
Reflex	UR-10N	NPN	10cm	Lead wire	Infra-red (IR)	VR	Mirror reflex	UG-3MNE	NPN	3.0m	Lead wire	Red	non	Thru beam	UT-6MN	NPN	6.0m	Lead wire	Infra-red (IR)	VR	
	UR-10P	PNP						UG-3MPE	PNP						UT-6MP	PNP					
	UR-30N	NPN	30cm	M8 Lead wire				UG-6MN	NPN	6.0m	M8 Lead wire	IR			UT-20MN	NPN	20.0m	M8 Lead wire			non
	UR-30P	PNP						UG-6MP	PNP						UT-20MP	PNP					
	UR-10N-PG	NPN	10cm	M8 Lead wire				UG-3MNE-PG	NPN	3.0m	M8 Lead wire	Red			UT-6MN-PG	NPN	6.0m	M8 Lead wire			VR
	UR-10P-PG	PNP						UG-3MPE-PG	PNP						UT-6MP-PG	PNP					
	UR-30N-PG	NPN	30cm	M8 Lead wire				UG-6MN-PG	NPN	6.0m	M8 Lead wire	IR			UT-20MN-PG	NPN	20.0m	M8 Lead wire			non
	UR-30P-PG	PNP						UG-6MP-PG	PNP						UT-20MP-PG	PNP					
	UR-10N-M8	NPN	10cm	M8 connector				UG-3MNE-M8	NPN	3.0m	M8 connector	Red			UT-6MN-M8	NPN	6.0m	M8 connector			VR
	UR-10P-M8	PNP						UG-3MPE-M8	PNP						UT-6MP-M8	PNP					
	UR-30N-M8	NPN	30cm	M8 connector				UG-6MN-M8	NPN	6.0m	M8 connector	IR			UT-20MN-M8	NPN	20.0m	M8 connector			non
	UR-30P-M8	PNP						UG-6MP-M8	PNP						UT-20MP-M8	PNP					

### MS series

- ⊙ Voltage : 10~30VDC
- ⊙ Sensitivity adjuster : VR
- ⊙ Output method : NPN&PNP or NPN NO/NC
- ⊙ Output status : NC type optioned

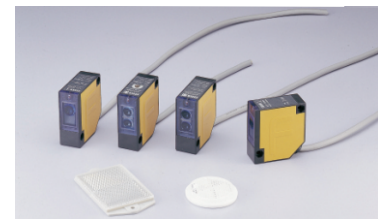
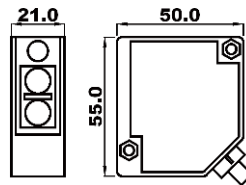


Type	Model	IP	Out	Sens.	Status	Lead	Type	Model	IP	Out	Sens.	Status	Lead	Type	Model	IP	Out	Sens.	Status	Lead
Reflex	MR-10NE	IP-65	*	15cm	NO	Lead wire	Reflex	PR-10NE	IP-65	NPN	15cm	NO	M8 connector	Mirror reflex	MG-2MX	IP-65	NPN	2.0m	NO	Lead wire
	MR-10X	IP-65	PNP					PR-10X	IP-65	PNP					MG-2MXP	IP-67	PNP			
	MR-10XP	IP-67	NPN	PR-10XP				IP-67	PNP	PG-2MX	IP-65	NPN			2.0m	NO	M8 connector			
	MR-30X	IP-65	PNP	PR-30X				IP-65	NPN	PG-2MXP	IP-67	PNP								
	MR-30XP	IP-67	NPN	PR-30XP				IP-67	PNP	30cm	NO	MT-6MX			IP-65	NPN	6.0m	NO	Lead wire	
	MR-60X	IP-65	PNP	PR-60X				IP-65	NPN			MT-6MXP			IP-67	PNP				
	MR-60XP	IP-67	NPN	PR-60XP				IP-67	PNP	30cm	NO	PT-6MX			IP-65	NPN	6.0m	NO	M8 connector	
												PT-6MXP			IP-67	PNP				

\* \* = NPN NO/NC

**A3 series**

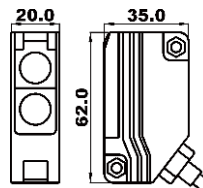
- ⊙ Voltage : 20~260VAC/DC
- ⊙ Output : Relay (3A/250VAC)



Type	Model	Sens. distance	Sens. Adjuster	Emitter	IP	Type	Model	Sens. distance	Sens. Adjuster	Emitter	IP	Type	Model	Sens. distance	Sens. Adjuster	Emitter	IP
Reflex	A3R-30X	30cm	VR 270°	IR	IP-65	Mirror reflex	A3G-2MR	3.0m	VR	RED	IP-65	Thru beam	A3T-3MX	3.0m	non	IR	IP-65
	A3R-1MX	1.0m					A3G-2MRS	2.0m	Non				A3T-10MX	10.0m			
	A3R-2MX	2.0m					A3G-4MRE	4.0m					A3T-20MX	20.0m			
	A3R-4MX	4.0m	A3G-4MX	6.0m	non		RED	IP-67	A3T-3MXP	3.0m	non		IR	IP-67			
	A3R-30XP	30cm	A3G-2MR-P	3.0m	VR				A3T-10MXP	10.0m							
	A3R-1MXP	1.0m	A3G-2MRS-P	2.0m	Non				A3T-20MXP	20.0m							
	A3R-2MXP	2.0m	A3G-4MRE-P	4.0m	non		IR	IP-67	Thru beam								
	A3R-4MXP	4.0m	A3G-4MX-P	6.0m	non												

**E3 series**

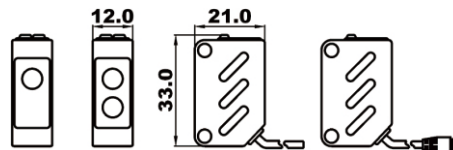
- ⊙ Voltage : 20~260VAC/DC
- ⊙ Output : Relay (1A/250VAC)



Type	Model	Off delay	Sens. distance	Adj.	Emitter	IP	Type	Model	Off delay	Sens. distance	Adj.	Emitter	IP	Type	Model	Off delay	Sens. distance	Adj.	Emitter	IP					
Reflex	E3R-60X	non	60cm	VR 270°	IR	IP-65	Mirror Reflex	E3G-6MRE	non	6.0m	non	RED	IP-65	Thru beam	E3T-10MX	non	12.0m	non	IR	IP-65					
	M3R-60X	0~1S	60cm					M3G-6MRE	0~1S							E3T-30MX	non	32.0m							
								M3G-8MX	non							8.0m	non	IR				IP-65	M3T-10MX	0~1S	12.0m
								M3G-8MX	0~1S													M3T-30MX	0~1S	32.0m	

**K2 series**

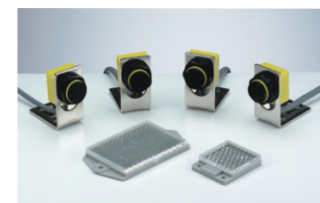
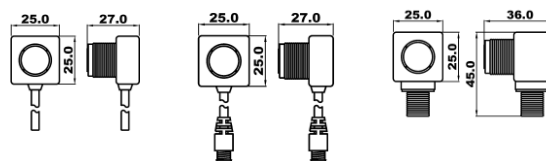
- ⊙ Operating voltage : 10~30VDC
- ⊙ Output method : NPN or PNP
- ⊙ Output status : NO / NC changeable
- ⊙ Protection class : IP-66



Type	Model	Sens. distance	Emitter	Adj.	Lead	Type	Model	Sens. distance	Emitter	Adj.	Lead	Type	Model	Sens. distance	Emitter	Adj.	Lead
Reflex	K2R-10NE	15cm	Red	VR	Lead wire	Reflex	K2R-1MN	1.0m	IR	non	Wire	Thru beam	K2T-4MN	4.0m	IR	non	Wire
	K2R-10PE	15cm					K2R-1MP	1.0m					K2T-4MP	4.0m			
	K2R-10N	15cm	IR				K2R-1MN-PG	1.0m	non	M8 wire	K2T-15MN		15.0m				
	K2R-10P	15cm					K2R-1MP-PG	1.0m			K2T-15MP		15.0m				
	K2R-30N	40cm	Red	VR	M8 lead wire		K2G-2MNE	2.0m	Red	non	Wire		K2T-4MN-PG	4.0m	IR	non	M8 wire
	K2R-30P	40cm					K2G-2MPE	2.0m					K2T-4MP-PG	4.0m			
	K2R-10NE-PG	15cm	IR	VR			K2G-3MN	3.0m	IR	non	M8 wire		K2T-15MN-PG	15.0m			
	K2R-10PE-PG	15cm					K2G-3MP	3.0m					K2T-15MP-PG	15.0m			
	K2R-10N-PG	15cm	IR	VR			K2G-2MNE-PG	2.0m	Red	non	M8 wire						
	K2R-10P-PG	15cm					K2G-2MPE-PG	2.0m									
	K2R-30N-PG	40cm	IR	VR			K2G-3MN-PG	3.0m	IR	non	M8 wire						
	K2R-30P-PG	40cm					K2G-3MP-PG	3.0m									

**RTM series**

- ⊙ Voltage : 10~30VDC
- ⊙ Output : NPN / PNP
- ⊙ Protection : IP-66
- ⊙ UL approved



Type	Model	Sens. distance	Emitter	Adj.	Lead	Type	Model	Sens. distance	Emitter	Adj.	Lead	Type	Model	Sens. distance	Output	Emitter	Adj.	Lead
Reflex	R18-10X	10cm	IR	VR	Wire	Mirror Reflex	M18-3MX	3.0m	IR	non	Wire	Thru beam	T18-6MX	6.0m	NPN	IR	non	Wire
	R18-30X	30cm					M18-1MG	1.2m					Blue	VR	T18-6MN			
	R18-60X	60cm					M18-2MRE	2.0m	Red	T18-30MX					30.0m			
	R18-10X-PG	10cm	IR	VR	M8 wire		M18-3MX-PG	3.0m	IR	non	M8 wire		T18-6MX-PG	6.0m	NPN			
	R18-30X-PG	30cm					M18-1MG-PG	1.2m					Blue	T18-6MN-PG	6.0m	NPN	IR	non
	R18-60X-PG	60cm	IR	VR	M12		M18-2MRE-PG	2.0m	Red	non	M12		T18-30MX-PG	30.0m	PNP			
	R18-10X-M12	10cm					M18-3MX-M12	3.0m					IR	T18-6MX-M12	6.0m	NPN		
	R18-30X-M12	30cm	IR	non	M12		M18-1MG-M12	1.2m	Blue	non	M12		T18-6MN-M12	6.0m	NPN	IR	non	M12
	R18-60X-M12	60cm					M18-2MRE-M12	2.0m					Red	T18-30MX-M12	30.0m	PNP		

### E2 series

- Operating voltage : 10~30VDC
- Output method : NPN or PNP
- Output status : NO/ NC changeable



Type	Model	Sens. distance	Emitter	Adj.	Lead	
Reflex	E2R-10N	10cm	IR	VR	Wire	
	E2R-30N	30cm				
Thru	E2T-4MN	6.0m				

Type	Model	Sens. distance	Emitter	Adj.	Lead	
Mirror Reflex	E2G-2MN	2.0M	IR	VR	Wire	
	E2G-1MRE	1.2M	Red			
	E2G-1MG	1.2M	Blue			

### PH series M8 & 7 Φ

- Operating voltage : 10~30VDC
- Output method : NPN
- Protection class : IP-67



Type	Model	Sens. distance	Emitter	Adj.	Lead	
Reflex	PH07-03N	45.0 mm	IR	non	Wire	
	PH08-03N					

### EX series

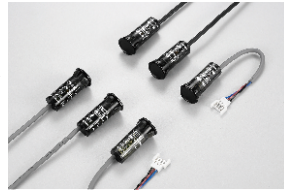
- Operating voltage : 10~30VDC
- Output method : NPN
- Protection class : IP-65



Type	Model	Sens. distance	Adj.	Emitter	Lead	
Reflex	EX-01N	12.0mm	non	Red	Wire	
	EX-03N	25.0mm				
	EX-07N	50.0mm				

### T12 series

- Operating voltage : 10~30VDC
- Output method : NPN or PNP
- Protection class : IP-66



Type	Model	Output	Sens. distance	Adj.	Emitter	Lead	
Thru beam (Flushed)	T12-6MN	NPN	8.0 m	non	IR	7m	
	T12-6MP	PNP					
	T12-20MN	NPN					
	T12-20MP	PNP	24.0 m				
	T12-6MN-PE	NPN	8.0 m	non	IR	PE Wire	
	T12-6MP-PE	PNP					
	T12-20MN-PE	NPN					
	T12-20MP-PE	PNP	24.0 m				

### A-11 series

- Operating voltage : 110 or 220VAC or 24VDC
- Output method : Relay
- Protection class : IP-65



Type	Model	Voltage	Sens. distance	Adj.	Emitter	Lead	
Amplifier	A-11-24V	10~30V	—	non	—	Terminal	
	A-11-110V	110VAC					
	A-11-220V	220VAC					
Sensor head	SC-6M	—	8.0 m	non	IR	7 m	
	SC-6M-PE	—					

### SU-07 series

- Operating voltage : 10~30VDC
- Output method : NPN & PNP
- Protection class : IP-65



Type	Model	Emitter	Output	Sens. distance	Adj.	
U shape	SU-07W	White	NPN & PNP	7.0 mm	VR	
	SU-07G	Green				
	SU-07R	Red				
	MU-07X	IR	NPN	7.0 mm	non	
	SU-07X	IR				
	SU-07XP	IR				

### SU-02 series

- Operating voltage : 10~30VDC
- Output method : NPN or PNP
- Protection class : IP-65



Type	Model	Emitter	Output	Sens. distance	Adj.	
U shape	SU-02X	IR	NPN	2.0 mm	VR	
	SU-02XP	IR	PNP			
	SU-02R	Red	NPN			
	SU-02RP	Red	PNP			

### KU-30 series

- Operating voltage : 10~30VDC
- Output method : NPN or PNP
- Protection class : IP-66



Type	Model	Output	Dir.	House	Sens. distance	Emitter	
U shape	KU-30N	NPN	Horiz..	Nylon	30 mm	IR	
	KU-30P	PNP					
	KU-30N-V	NPN	Vert..				
	KU-30P-V	PNP					
	SU-30X	NPN	Horiz.	Allum.			
	SU-30XP	PNP					

### LT series

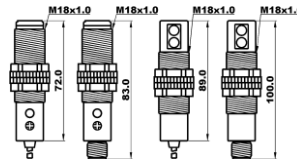
- Operating voltage : 10~30VDC
- Output method : NPN & PNP
- Protection class : IP-66



Type	Model	Status	Sens. distance	Adj.	Emitter	
Thru beam	LT-40MX	NO	40 M	VR	IR	
	LT-40MXB	NC				
	LT-80MX	NO				
	LT-80MXB	NC				
	LT-150MX	NO				
	LT-150MXB	NC				

**M18-G series**

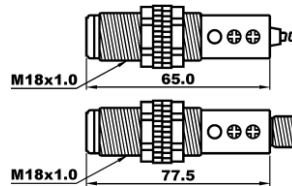
- Operating voltage : 10~30VDC or 90~250VAC
- Output method : NPN & PNP or SCR
- Protection class : IP-66



Type	Model	Sens. distance	Dir.	Volt.	Emit.	Type	Model	Sens. distance	Dir.	Emit.	Lead	Volt.	Type	Model	Sens. distance	Dir.	Emit.	Lead	Volt.
Reflex	CDR-10X	10cm	Horizontal	10~30 VDC	IR	Reflex	CDR-10X-M12	10cm	Horizontal	IR	M12 connector	10~30 VDC	Mirror Reflex	CAM-2MX	2.0m	H	IR	Wire	90~250 VAC
	CDR-30X	30cm					CDR-30X-M12	30cm						CAM-2MX-V	2.0m	V			
	CDR-60X	60cm					CDR-60X-M12	60cm						CDM-1MR-M12	1.6m	H	RED	M12 connector	
	CDR-10X-V	10cm	CDR-10X-V-M12				10cm	CDM-2MX-M12	2.5m					H					
	CDR-30X-V	30cm	CDR-30X-V-M12				30cm	CDM-2MX-V-M12	2.0m					V	IR	M12 connector			
	CDR-60X-V	60cm	CDR-60X-V-M12				60cm	CDT-10MX	10.0m					H					
	CAR-10X	10cm	Hor.				90~250 VAC	M-Reflex	CDM-1MR					1.6m	Hor.	RED	Wire		
	CAR-30X	30cm							CDM-2MX					2.5m	IR				
	CAR-10X-V	10cm							V					CDM-2MX-V	2.0m	V	IR	Wire	
														CDT-10MX-M12	10.0m	H			
														CDT-6MX-V-M12	6.0m	V			

**KD/KM series [M18 Alumina housing]**

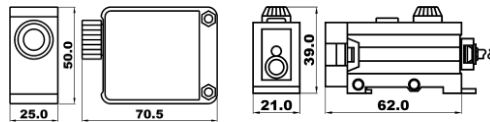
- Operating voltage : 10~30VDC
- Output method : NPN & PNP
- Protection class : IP-66



Type	Model	Sens. distance	Emitter	Adj.	Status	Lead	Type	Model	Sens. distance	Emitter	Adj.	Status	Lead	Type	Model	Sens. distance	Emitter	Adj.	Status	Lead
Reflex	KDR-10X	15cm	IR	VR	VR Change	Wire	Reflex	KDR-10X-M12	15cm	IR	VR	VR Change	Wire	M-Reflex	KDM-2MRE	2.0m	RED	VR	VR Change	M12
	KDR-30X	40cm						KDR-30X-M12	40cm						KDM-3MX	3.0m	IR			
	KDR-60X	60cm						KDR-60X-M12	60cm						KDM-3MX-M12	3.0m	IR			

**MS / FM series**

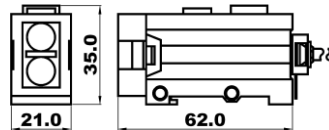
- Operating voltage : 10~30VDC
- Output method : NPN & PNP
- Protection class : IP-65



Type	Model	Resp. time.	Sens. distance	Emitter	Status	Lead	Type	Model	Emitter	Resp. time.	Sens. distance	Status	Lead	Type	Model	Emitter	Sens. distance	Resp. time.	Status	Lead
Mark sensor	MS-02W	0.2ms	25.0 mm	White LED	NO/NC change	Wire	Mark sensor	FM-01R	Red	0.25 ms	15.0 mm	NO/NC change	Wire	Mark sensor	FM-03R	Red	32.0 mm	2.0 ms	NO/NC change	Wire
	MS-02W-H	0.1ms						FM-01G	White	FM-03G	White									
	MS-02W-M12	0.2ms						FM-01PR	Red	2.0 ms	12.0 mm				FM-10R	Red	100.0 mm			
	MS-02WH-M12	0.1ms						FM-01PG	White											

**f series**

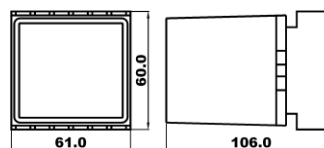
- Operating voltage : 10~30VDC
- Output method : NPN & PNP
- Protection class : IP-65



Type	Model	Sens. distance	Dir.	Emit.	Resp. time.	Status	Type	Model	Sens. distance	Dir.	Emit.	Resp. time.	Status	Type	Model	Sens. distance	Dir.	Emit.	Resp. time.	Status
Reflex	FR-1MX	1.0m	Horiz.	IR	2.0 ms	NO/NC change	Reflex M-Ref.	FR-1MXS	50cm	Horiz.	IR	2.0 ms	NO/NC change	Thru beam	FT-10MX	10.0m	Horiz.	IR	2.0 ms	NO/NC change
	FR-2MX	2.0m						FR-4MX	4.0m						FT-20MX	20.0m				
	FR-1MX-V	1.0m	Vert.					FG-3MX	4.0m	FT-10X-V					10.0m					
	FR-2MX-V	2.0m						FG-3MX-V	4.0m	FT-20MX-V					10.0m					

**AS series Amplifier separated type**

- Operating voltage : 110 / 220VAC (Amplifier)
- Output method : Relay (Amplifier)
- Protection class : IP-65

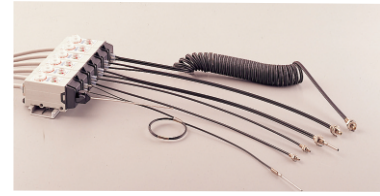
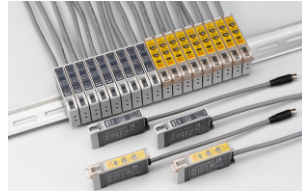


Model	Sens. distance	Emit.	Model	Sens. distance	Emit.	Model	Sens. distance	Emit.	Model	Sens. distance	Emit.
SV-10	15cm	G	SH-10	15cm	G	SC-10	15cm	G	SB-03	30mm	R
SV-15	15cm	R	SH-15	15cm	R	SC-15	15cm	R	SB-10	10cm	IR
SV-30	30cm	R	SH-30	30cm	R	SC-30	30cm	R			
SV-50	50cm	R	SH-50	50cm	R	SC-50	50cm	R			
SV-2M	2m	IR	SH-2M	2m	IR	SC-2M	2m	IR			

## Photo Electric Sensor

### MF/VF/FF series fiber sensor amplifier

- Operating voltage : 10~30VDC
- Output method : NPN & PNP changeable
- Protection class : IP-65



Type	Model	Emitter	Resp. time.	Shape	Type	Model	Out	Resp. time.	Shape	Type	Model	Emitter	Resp. time.	Shape
Fiber amplifier	mF-01B	Blue	ON-OFF < 0.2ms		Fiber amplifier	VF-06R	NPN	ON-OFF < 0.5ms		Fiber amplifier	FF-03R	Red	ON-OFF < 0.25ms	
	mF-06R	Red				VR-06RP	PNP				FF-03X	Red		
	mF-06RT	Red				VF-06R-M8	NPN				FF-06R	Red		
	mF-01B-M8	Blue				VR-06RP-M8	PNP				FF-06X	IR		
	mF-06R-M8	Red												
mF-06RT-M8	Red													

### FPR series Reflex type fiber

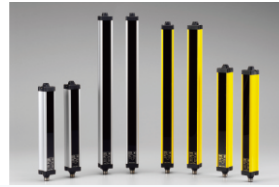
Model	Sens. distance	Shape	Model	Sens. distance	Shape	Model	Sens. distance	Shape
FPR-51	85mm		FPR-56	45mm		FPR-61	45mm	
FPR-52	85mm		FPR-57	45mm		FPR-62	85mm	
FPR-53	85mm		FPR-58	45mm		FPR-63	45mm	
FPR-54	85mm		FPR-59	45mm		FPR-64	85mm	
FPR-55	85mm		FPR-60	85mm		FPR-65	45mm	

### fpt series Thru beam type fiber

Model	Sens. distance	Shape	Model	Sens. distance	Shape	Model	Sens. distance	Shape
FPT-01	120mm		FPT-06	120mm		FPT-11	120mm	
FPT-02	320mm		FPT-07	320mm		FPT-12	320mm	
FPT-03	120mm		FPT-08	60mm		FPT-13	120mm	
FPT-04	320mm		FPT-09	120mm		FPT-14	320mm	
FPT-05	120mm		FPT-10	320mm		FPT-15	320mm	

**LC/NA/LA series light curtain**

- Operating voltage : 24±20% VDC
- Output method : NPN & PNP
- Protection class : IP-65



Pitch	Model	Beam	Prot. height	Set Dist.	Pitch	Model	Beam	Prot. height	Set Dist.	Pitch	Model	Beam	Prot. height	Set Dist.	Pitch	Model	Beam	Prot. height	Set Dist.					
25.0 mm	LC-04E	4	75	0.5m ~ 6.0m	25.0 mm	LC-32E	32	775	0.5m ~ 6.0m	40.0 mm	NA-04E	4	120	0.5m ~ 6.0m	40.0 mm	NA-20E	20	760	0.5m ~ 6.0m	25mm 10mm	LA-05E	5	100 mm	0.1m ~ 1.6m or 0.2m ~ 3.2m
	LC-08E	8	175			LC-40E	40	975			NA-06E	6	200			NA-24E	24	920			LA-05E-PG	5		
	LC-12E	12	275			LC-48E	48	1175			NA-08E	8	280			NA-28E	28	1080			LA-05PE	5		
	LC-16E	16	375			LC-56E	56	1375			NA-12E	12	440			NA-32E	32	1240			LA-11E	11	100 mm	
	LC-24E	24	575			LC-64E	64	1575			NA-16E	16	600			NA-36E	36	1400			LA-11PE	11		

**LA-2/LA-4 series**

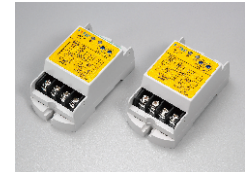
- Operating voltage : 24±20% VDC
- Output method : NPN & PNP
- Protection class : IP-65



Pitch	Model	Beam	Prot. height	Set Dist.	Pitch	Model	Beam	Prot. height	Set Dist.	Pitch	Model	Beam	Prot. height	Set Dist.	Pitch	Model	Beam	Prot. height	Set Dist.
20.0mm	LA2-08	8	140	0.1m~1.6m or 0.2m~3.2m settable	20.0mm	LA2-08L	8	140	0.2m~6.0m or 0.5m~12.0m settable	40.0 mm	LA4-04	4	120	0.1m~1.6m or 0.2m~3.2m settable	40.0 mm	LA4-04-L	4	120	0.2m~6.0m or 0.5m~12.0m settable
	LA2-12	12	220			LA2-12L	12	220			LA4-06	6	200			LA4-06-L	6	200	
	LA2-16	16	300			LA2-16L	16	300			LA4-08	8	280			LA4-08-L	8	280	
	LA2-20	20	380			LA2-20L	20	380			LA4-12	12	440			LA4-12-L	12	440	
	LA2-24	24	460			LA2-24L	24	460			LA4-16	16	600			LA4-16-L	16	600	
	LA2-28	28	540			LA2-28L	28	540			LA4-20	20	760			LA4-20-L	20	760	
	LA2-32	32	620			LA2-32L	32	620			LA4-24	24	920			LA4-24-L	24	920	
						LA4-28	28	1080	LA4-28-L	28	1080								

**C series Sensor controller**

- Operating voltage : 110/220 VAC
- Output method : Relay
- Protection class : IP-65



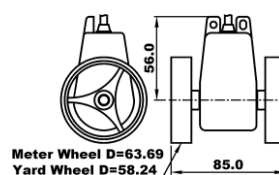
Model	Timer	DC out	Detect	Volt.	Model	Timer	DC out	Volt.	Model	Timer	DC out	Volt.	
C-1	Non			110/220VAC	C-6	Non		110/220VAC	C-21	ON/OFF delay	60 mA	90 ~ 250VAC	
C-2	*	Non	150 mA		C-10	***	40 mA						
C-3	**				C-11	****							
C-1-LCK	Non	With			C-12	*****							
Timer	* C-2 : One shot/ON delay/OFF delay settable ; ** C-3 : Timer 1 : ON delay Timer 2 : One shot/ON delay/OFF delay settable *** C-10 : OFF delay ; **** C-11 : ON delay or One shot ; ***** C-12 : ON + OFF delay ; C-21 : ON + OFF delay												

**MR series Reflex mirror**

MR-1	MR-2	MR-3	MR-4

**WE series Wheel type length encoder**

- Operating voltage : 10~30VDC
- Response frequency : 2KHz
- Output method : Push-Pull



Type	Model	Unit	PPR	Type	Model	Unit	PPR	Type	Model	Unit	PPR	Type	Model	Unit	PPR
Single phase	WE-M1	1m	0.2	Single phase	WE-Y1	1yd	0.2	Two phase	WE-M2T	0.1m	2	Two phase	WE-Y2T	0.1yd	2
	WE-M2	0.1m	2		WE-Y2	0.1yd	2		WE-M3T	0.01m	20		WE-Y3T	0.01yd	20
	WE-M3	0.01m	20		WE-Y3	0.01yd	20		WE-M4T	0.001m	200		WE-Y4T	0.001yd	200

### EMS/EMK series Magnetic scale

- Operating voltage : 10 ~ 30 VDC
- Setting distance : 0.1 ~ 4.0 mm
- Protection class : IP-67



Series	Model	Res. $\mu\text{m}$	Series	Model	Res. $\mu\text{m}$	Series	Model	Res. $\mu\text{m}$	Series	Model	Res. $\mu\text{m}$
EMS	EMS-01-□□	1.0	EMS	EMS-100-□□	100.0	EMK	EMK-01-□□	1.0	EMK	EMK-100-□□	100.0
	EMS-05-□□	5.0		EMS-250-□□	250.0		EMK-05-□□	5.0		EMK-250-□□	250.0
	EMS-10-□□	10.0		EMS-500-□□	500.0		EMK-10-□□	10.0		EMK-500-□□	500.0
	EMS-25-□□	25.0		EMS-1K-□□	1000.0		EMK-25-□□	25.0		EMK-1K-□□	1000.0
	EMS-50-□□	50.0					EMK-50-□□	50.0			

Rem. ◎ Response frequency : 「Standard」=16KHz / 「H」=250 KHz / 「SH」=2000 KHz  
 ◎ Output method : 「Standard」= Push-Pull / 「D」= Line drive

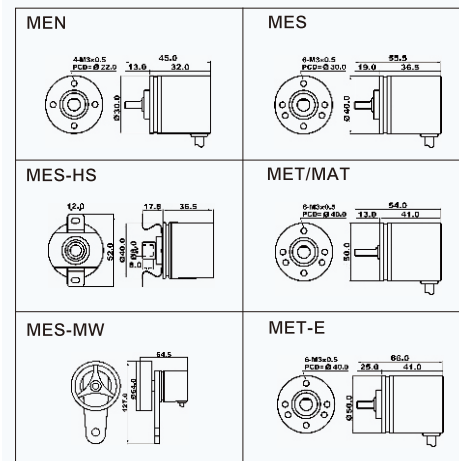
### MEN/ MES/MET series Magnetic encoder

- Operating voltage : 10 ~ 30 VDC
- Output method : Push-Pull or Line drive
- Response frequency : 30K ~ 120K Hz



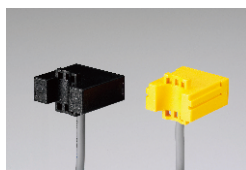
**Ex. MES - 2500 D - E - 8Φ - M12**

1	2	3	4	5	6
1. Product : Incremental : 「MES」= 40Φ ; 「MET」= 50Φ 「MEN」= 30Φ Absolute : 「MAT」= 50Φ			5. Diameter of shaft or hole : 「Non」= Shaft 6.0Φ ; 「8Φ」= Shaft 8.0 mm 「H8」= Hole 8.0Φ ; 「H10」= Hole 10.0Φ		
2. Resolution : 10PPR ~ 2500PPR 「05」= 5 PPR ; 「500」= 500 PPR ; 「1024」= 1024 PPR ; 「2500」= 2500 PPR			6. Option : 「Non」= Cable lead wire 「PG」= M12 Lead wire 「M12」= M12 connection ( MET type only ) 「ZL」= Z Phase low level output 「MW」= Meter wheel type		
3. Output method : 「Non」= NPN+PNP ( Push-Pull ) 「D」= Line driver ; 「N」= NPN ; 「P」= PNP			1. Pulse per Revolution ( PPR ) 5,10,20,30,40,50,60,100,120,150,180,200, 250,300,360,400,500,512,600,720,800,1000, 1024,1200,1500,1800,2000,2048,2500		
4. Bearing or Output code ( MET/MAT ) : 「E」= Heavy duty type ; 「Non」= Standard type 「GC」= Gray code ; 「BCD」= BCD code ; 「Non」= Binary code			2. Accepted to manufacture for special resolution		



### FL/CP series level sensor

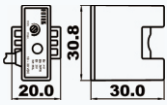
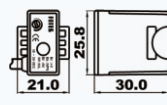
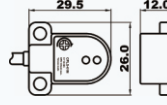


- Operating voltage : 10 ~ 30 VDC
- Sensitivity adjuster : VR ( 14 turns )
- Applied tube : 7~13Φ



### CPLS series leakage sensor

- Operating voltage : 10 ~ 30 VDC
- Sensitivity adjuster : VR
- Applied liquid : General chemical liquid



Type	Model	Out	Photo	Type	Model	Out	Photo	Type	Model	Status	Out	Housing	Photo	
Photo	FL-13N	NPN		Capacitive	CP13-10N	NPN		Capacitive	CPLS-01N	NO	NPN	PP		
	FL-13P	PNP			CP13-10P	PNP			CPLS-01NB	NC	NPN			
									CPLS-01P	NO	PNP			
									CPLS-01PB	NC	PNP			

### FC series Reed sensor

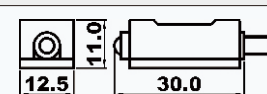
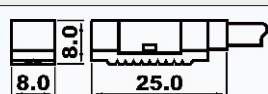
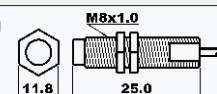
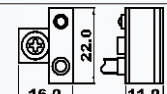
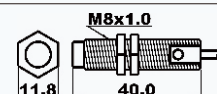
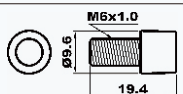
- Operating voltage : 5 ~ 240 VAC/DC
- Contact rated : 10W max.
- Contact life : Over 1 million times



### MS08 series Hall sensor

- Operating voltage : 10 ~ 30 VDC
- Output current : 150mA max.
- Sensing distance : 12.0mm



Model	Dimension	Model	Dimension	Model	Out	Dimension
FC-1		FC-2		MS08-10N	NPN	MS08-□□ 
FC-3		FC-08		MS08-10P	PNP	MS-M6 



### KTS/KTP/KTM/KTW series Flow Meter & Flow Sensor

- Operating voltage : 10~30VDC
- Flow Total meter (FTM) : 999999 L or Gallon
- Flow rate meter (LPM) : 0.0~999.9LPM
- Material of Union : PVC or PP or SUS-316 optioned



Type	Model	Pipe	LPM	Total	Out	Tran.	Type	Model	Pipe	LPM	Total	Out	Tran.	Dimension (KTS/KTP/KTM)
Flow rate meter + Flow total meter	KTP-08-□□	1/4"	0.6~20.0	0~999999L or Gal or KL	NPN 150mA max.	NPN Pulse output or RS-485	Flow rate meter + Flow total meter	KTM-08-□□	1/4"	0.6~20.0	0~999999L or Gal or KL	NPN 150mA max.	4~20mA or 0~5V	
	KTP-10-□□	3/8"	1.8~60.0					KTM-10-□□	3/8"	1.8~60.0				
	KTP-15-□□	1/2"	3.5~120.0					KTM-15-□□	1/2"	3.5~120.0				
	KTP-20-□□	3/4"	5.0~170.0					KTM-20-□□	3/4"	5.0~170.0				
	KTP-25-□□	1"	9.0~300.0					KTM-25-□□	1"	9.0~300.0				
	KTP-40-□□	1 1/2"	25.0~850.0					KTM-40-□□	1 1/2"	25.0~850.0				
	KTP-50-□□	2"	40.0~1350.0					KTM-50-□□	2"	40.0~1350.0				
	KTP-65-□□	2 1/2"	50.0~1850.0					KTM-65-□□	2 1/2"	50.0~1850.0				
	KTP-80-□□	3"	60.0~2025.0					KTM-80-□□	3"	60.0~2025.0				
KTP-100-□□	4"	80.0~2700.0	KTM-100-□□	4"	80.0~2700.0									
Flow rate meter	KTS-08-□□	1/4"	0.6~20.0	Non	Relay 5A/250VAC	NPN Pulse output	Flow rate sensor	KTW-08-□□	1/4"	0.6~20.0	Non	Non	NPN Pulse output or 4~20mA or 0~5V	
	KTS-10-□□	3/8"	1.8~60.0					KTW-10-□□	3/8"	1.8~60.0				
	KTS-15-□□	1/2"	3.5~120.0					KTW-15-□□	1/2"	3.5~120.0				
	KTS-20-□□	3/4"	5.0~170.0					KTW-20-□□	3/4"	5.0~170.0				
	KTS-25-□□	1"	9.0~300.0					KTW-25-□□	1"	9.0~300.0				
	KTS-40-□□	1 1/2"	25.0~850.0					KTW-40-□□	1 1/2"	25.0~850.0				
	KTS-50-□□	2"	40.0~1350.0					KTW-50-□□	2"	40.0~1350.0				
	KTS-65-□□	2 1/2"	50.0~1850.0					KTW-65-□□	2 1/2"	50.0~1850.0				
	KTS-80-□□	3"	60.0~2025.0					KTW-80-□□	3"	60.0~2025.0				
KTS-100-□□	4"	80.0~2700.0	KTW-100-□□	4"	80.0~2700.0									

### KTF series Thermal Mass Flow Sensor

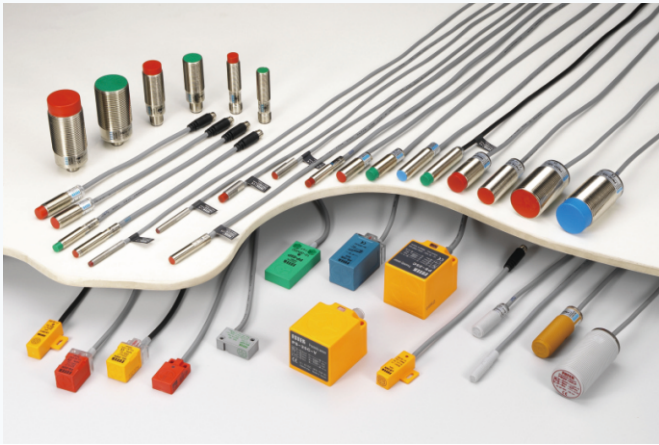
- Operating voltage : 12±10%VDC
- Measuring gases : N<sub>2</sub>, O<sub>2</sub> or Dry air
- Measuring range : 0 ~ 50 L/min (min.) : 0 ~ 500 L/min. (max.)
- Material of body : SUS 316



Type	Model	Pipe	LPM	Accur.	Pres.	Res. time	Trans.	Dimension		
Thermal mass flow sensor	KTF-050-□□	1/4"	0.0~50.0	2.0% of FS max.	-0.07~0.98 MPa	3 sec max.	4~20mA or 0~5V	KTF-050/080/100		
	KTF-080-□□	1/4"	0.0~80.0							
	KTF-100-□□	1/4"	0.0~100.0							
	KTF-200-□□	1/2"	0.0~200.0					KTF-200/300		
	KTF-300-□□	1/2"	0.0~300.0							
	KTF-400-□□	3/4"	0.0~400.0					KTF-400/500		
KTF-500-□□	3/4"	0.0~500.0								

### M8 & M12 Connecting cable

Type	M8	Type	M12																	
Model	M8-3C-□M / M8-4C-□M	Model	M12-4C-□M																	
Dimension	<table border="1"> <tr><th>規格</th><th>A</th><th>B</th></tr> <tr><td>M8-3m</td><td>3m</td><td>50±3mm</td></tr> <tr><td>M8-5m</td><td>5m</td><td>50±3mm</td></tr> </table>	規格	A	B	M8-3m	3m	50±3mm	M8-5m	5m	50±3mm	<table border="1"> <tr><th>規格</th><th>A</th><th>B</th></tr> <tr><td>M12-3m</td><td>3m</td><td>50±3mm</td></tr> <tr><td>M12-5m</td><td>5m</td><td>50±3mm</td></tr> </table>	規格	A	B	M12-3m	3m	50±3mm	M12-5m	5m	50±3mm
規格	A	B																		
M8-3m	3m	50±3mm																		
M8-5m	5m	50±3mm																		
規格	A	B																		
M12-3m	3m	50±3mm																		
M12-5m	5m	50±3mm																		
Model	M8-3C-L□M / M8-4C-L□M	Model	M12-4C-L□M																	
Dimension	<table border="1"> <tr><th>規格</th><th>A</th><th>B</th></tr> <tr><td>M8-L3m</td><td>3m</td><td>50±3mm</td></tr> <tr><td>M8-L5m</td><td>5m</td><td>50±3mm</td></tr> </table>	規格	A	B	M8-L3m	3m	50±3mm	M8-L5m	5m	50±3mm	<table border="1"> <tr><th>規格</th><th>A</th><th>B</th></tr> <tr><td>M12-L3m</td><td>3m</td><td>50±3mm</td></tr> <tr><td>M12-L5m</td><td>5m</td><td>50±3mm</td></tr> </table>	規格	A	B	M12-L3m	3m	50±3mm	M12-L5m	5m	50±3mm
規格	A	B																		
M8-L3m	3m	50±3mm																		
M8-L5m	5m	50±3mm																		
規格	A	B																		
M12-L3m	3m	50±3mm																		
M12-L5m	5m	50±3mm																		



- ※ All DC type with 「Short-circuit」 & 「Polarity reversed」 protection.
- ※ All AC type with 「surge absorbing circuit」 to avoid surge damage.
- ※ High solid compact structure 「IP-67」 suited to applied in any poor circumstance.
- ※ All models with 「operating pilot」.
- ※ Conformity with 「IEC」 standard.

### Guiding of model

※ Tubular type

**Ex. PM 12 - 04 N B S - M12**  
           1   2      3 4 5 6      7

1	Type	PM : Screw type PT : Tubular type TW : 2 wires type CP : Capacitive type	2	Outline	04 : 4Φ 05 : M5*1.0 08 : M8*1.0 12 : M12*1.0 18 : M18*1.0 30 : M30*1.5
3	Sensing distance	01=1.0mm 02=2.0mm 04=4.0mm 05=5.0mm 08=8.0mm 10=10.0mm 15=15.0mm 20=20.0mm 25=25.0mm	4	Output method	N=NPN P=PNP C=NPN & PNP S=SCR
5	Output status	Non = NO type B = NC type	6	Material	Non = Cu plated Ni S = Short type P= Plastic E = Full screw K = Stainless steel
7	Lead	Non = Lead wire PG = M8 Lead wire connector M12 = M12 connector			

※ Square type

**Ex. LS - 04 N B - V - PG**  
           1   2 3 4      5      6

1	Type	LS : Rectangular SP : Plate BS : Micro PS : Square PL : Rectangular PP : Plate	2	Sensing distance	02=2.0mm 04=4.0mm 05=5.0mm 08=8.0mm 10=10.0mm 15=15.0mm 25=25.0mm
3	Output method	N=NPN P=PNP C=NPN & PNP S=SCR	4	Output status	Non = NO type B = NC type
5	Sensing direction	Non = Horizontal V = Vertical	6	Lead	Non = Lead wire PG = M8 Lead wire connector M12 = M12 connector

### General Data

Specification	DC type (3 wires)	DC type (2 wires)	AC type (2 wires)
Operating voltage	10 ~ 30 VDC	10 ~ 30 VDC	90 ~ 250 VAC
Power ripple	< 20% of Vp-p	< 20% of Vp-p	50/60Hz
Output current	150 mA max.	5.0 ~ 150 mA max.	100mA max.
Current consumption	10 mA max.	/	2.0mA max.
Residual voltage	< 0.1V	4.0V max.	< 15V
Leakage current	< 0.8 mA	0.8mA max.	< 4.0 mA
Protection circuit	Short-circuit & Polarity reversed	Short-circuit & Polarity reversed	surge absorbing circuit
Protection class	IP-67		

Model	Out	Sen. Dist.	mode	Op Volt.	Hous ing	Outline
LS-02N	NPN	2.0 mm	3 wires	10~30 VDC	PBT	
LS-02NB						
LS-02P	PNP	2.0 mm	3 wires	10~30 VDC	PBT	
LS-02PB						
LS-04N	NPN	4.0 mm	3 wires	10~30 VDC	PBT	
LS-04NB						
LS-04P	PNP	4.0 mm	3 wires	10~30 VDC	PBT	
LS-04PB						
SP-04N	NPN	4.0 mm	3 wires	10~30 VDC	PBT	
SP-04NB						
SP-04P	PNP	4.0 mm	3 wires	10~30 VDC	PBT	
SP-04PB						
BS-02N	NPN	2.0 mm	3 wires	10~30 VDC	PBT	
BS-02NB						
BS-02P	PNP	2.0 mm	3 wires	10~30 VDC	PBT	
BS-02PB						
BS-04N	NPN	4.0 mm	3 wires	10~30 VDC	PBT	
BS-04NB						
BS-04P	PNP	4.0 mm	3 wires	10~30 VDC	PBT	
BS-04PB						
PS-05N	NPN	5.0 mm	3 wires	10~30 VDC	PBT	
PS-05NB						
PS-05P	PNP	5.0 mm	3 wires	10~30 VDC	PBT	
PS-05PB						
PS-08N	NPN	8.0 mm	3 wires	10~30 VDC	PBT	
PS-08NB						
PS-08P	PNP	8.0 mm	3 wires	10~30 VDC	PBT	
PS-08PB						
PL-05N	NPN	5.0 mm	3 wires	10~30 VDC	PBT	
PL-05NB						
PL-05P	PNP	5.0 mm	3 wires	10~30 VDC	PBT	
PL-05PB						
PS-10S	SCR	10.0 mm	2 wires	90~250 VAC	PBT	
PS-10SB						
PS-15S	SCR	15.0 mm	2 wires	90~250 VAC	PBT	
PS-15SB						
PS-15N	NPN	15.0 mm	3 wires	10~30 VDC	SUS 304	
PS-15NB						
PS-15P	PNP	15.0 mm	3 wires	10~30 VDC	SUS 304	
PS-15PB						
PS-25C	NPN & PNP	25.0 mm	Lead	10~30 VDC	PBT	
PS-25CB						
PS-25C-M12	NPN & PNP	25.0 mm	M12	10~30 VDC	PBT	
PS-25CB-M12						
PT04-01NS	NPN	0.8 mm	3 wires	10~30 VDC	SUS 304	
PT04-01NBS						
PT04-01PS	PNP	0.8 mm	3 wires	10~30 VDC	SUS 304	
PT04-01PBS						
PT04-01N	NPN	0.8 mm	3 wires	10~30 VDC	SUS 304	
PT04-01NB						
PT04-01P	PNP	0.8 mm	3 wires	10~30 VDC	SUS 304	
PT04-01PB						

Model	Out	Sen. Dist.	mode	Op Volt.	Hous ing	Outline
SP-02N	NPN	2.0 mm	3 wires	10~30 VDC	PBT	
SP-02NB						
SP-02P	PNP	2.0 mm	3 wires	10~30 VDC	PBT	
SP-02PB						
LS-04N-V	NPN	4.0 mm	3 wires	10~30 VDC	PBT	
LS-04NB-V						
LS-04P-V	PNP	4.0 mm	3 wires	10~30 VDC	PBT	
LS-04PB-V						
SP-05N	NPN	5.0 mm	3 wires	10~30 VDC	PBT	
SP-05NB						
SP-05P	PNP	5.0 mm	3 wires	10~30 VDC	PBT	
SP-05PB						
SP-08N	NPN	8.0 mm	3 wires	10~30 VDC	PBT	
SP-08NB						
SP-08P	PNP	8.0 mm	3 wires	10~30 VDC	PBT	
SP-08PB						
PP-05N	NPN	5.0 mm	3 wires	10~30 VDC	PBT	
PP-05NB						
PP-05P	PNP	5.0 mm	3 wires	10~30 VDC	PBT	
PP-05PB						
PP-08N	NPN	8.0 mm	3 wires	10~30 VDC	PBT	
PP-08NB						
PP-08P	PNP	8.0 mm	3 wires	10~30 VDC	PBT	
PP-08PB						
PS-05S	SCR	5.0 mm	2 wires	90~250 VAC	PBT	
PS-05SB						
PS-08S	SCR	8.0 mm	2 wires	90~250 VAC	PBT	
PS-08SB						
PL-08N	NPN	8.0 mm	3 wires	10~30 VDC	PBT	
PL-08NB						
PL-08P	PNP	8.0 mm	3 wires	10~30 VDC	PBT	
PL-08PB						
PS-10N	NPN	10.0 mm	3 wires	10~30 VDC	PBT	
PS-10NB						
PS-10P	PNP	10.0 mm	3 wires	10~30 VDC	PBT	
PS-10PB						
SP-25C	NPN & PNP	25.0 mm	3 wires	10~30 VDC	PBT	
SP-25CB						
PS-25C-V	NPN & PNP	25.0 mm	Lead	10~30 VDC	PBT	
PS-25CB-V						
PS-25C-V-M12	NPN & PNP	25.0 mm	M12	10~30 VDC	PBT	
PS-25CB-V-M12						
PT04-02NS	NPN	1.5 mm	3 wires	10~30 VDC	SUS 304	
PT04-02NBS						
PT04-02PS	PNP	1.5 mm	3 wires	10~30 VDC	SUS 304	
PT04-02PBS						
PT04-02N	NPN	1.5 mm	3 wires	10~30 VDC	SUS 304	
PT04-02NB						
PT04-02P	PNP	1.5 mm	3 wires	10~30 VDC	SUS 304	
PT04-02PB						

Model	Out	Sen. Dist.	mode	Op Volt.	Hous ing	Outline
PM05-01NS	NPN	0.8 mm	3 wires	10~30 VDC	Cu plated Ni	
PM05-01NBS						
PM05-01PS						
PM05-01PBS						
PM05-01N	NPN	0.8 mm	3 wires	10~30 VDC	Cu plated Ni	
PM05-01NB						
PM05-01P						
PM05-01PB						
PM08-01N-M8	NPN	1.0 mm	M12	10~30 VDC	Cu plated Ni	
PM08-01NB-M8						
PM08-01P-M8						
PM08-01PB-M8						
PM08-01NS	NPN	1.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM08-01NBS						
PM08-01PS						
PM08-01PBS						
PM08-01N	NPN	1.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM08-01NB						
PM08-01P						
PM08-01PB						
TW08-01C	NO	1.0 mm	2 wires			
TW08-01CB	NC					
PM08-01N-P	NPN	1.0 mm	3 wires	10~30 VDC	PP	
PM08-01NB-P						
PM08-01P-P						
PM08-01PB-P						
PM08-01N-K	NPN	1.0 mm	3 wires	10~30 VDC	SUS 304	
PM08-01NB-K						
PM08-01P-K						
PM08-01PB-K						
PM12-02NS	NPN	2.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM12-02NBS						
PM12-02PS						
PM12-02PBS						
TW12-02C	NO	2.0 mm	2 wires			
TW12-02CB	NC					
PM12-02N	NPN	2.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM12-02NB						
PM12-02P						
PM12-02PB						
PM12-02S	SCR	2.0 mm	2 wires	90~250 VAC	Cu plated Ni	
PM12-02SB	SCR					
PM12-02N-E	NPN	2.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM12-02NB-E						
PM12-02P-E						
PM12-02PB-E						
TW12-02C-E	NO	2.0 mm	2 wires			
TW12-02CB-E	NC					
PM12-02N-M12	NPN	2.0 mm	M12	10~30 VDC	Cu plated Ni	
PM12-02NB-M12						
PM12-02P-M12						
PM12-02PB-M12						
TW12-02C-M12	NO	2.0 mm	2 wires			
TW12-02CB-M12	NC					

Model	Out	Sen. Dist.	mode	Op Volt.	Hous ing	Outline
PM05-02NS	NPN	1.5 mm	3 wires	10~30 VDC	Cu plated Ni	
PM05-02NBS						
PM05-02PS						
PM05-02PBS						
PM05-02N	NPN	1.5 mm	3 wires	10~30 VDC	Cu plated Ni	
PM05-02NB						
PM05-02P						
PM05-02PB						
PM08-02N-M8	NPN	2.0 mm	M8	10~30 VDC	Cu plated Ni	
PM08-02NB-M8						
PM08-02P-M8						
PM08-02PB-M8						
PM08-02NS	NPN	2.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM08-02NBS						
PM08-02PS						
PM08-02PBS						
PM08-02N	NPN	2.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM08-02NB						
PM08-02P						
PM08-02PB						
TW08-02C	NO	2.0 mm	2 wires			
TW08-02CB	NC					
PM08-02N-P	NPN	2.0 mm	3 wires	10~30 VDC	PP	
PM08-02NB-P						
PM08-02P-P						
PM08-02PB-P						
PM08-02N-K	NPN	2.0 mm	3 wires	10~30 VDC	SUS 304	
PM08-02NB-K						
PM08-02P-K						
PM08-02PB-K						
PM12-04NS	NPN	4.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM12-04NBS						
PM12-04PS						
PM12-04PBS						
TW12-04C	NO	4.0 mm	2 wires			
TW12-04CB	NC					
PM12-04N	NPN	4.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM12-04NB						
PM12-04P						
PM12-04PB						
PM12-04S	SCR	4.0 mm	2 wires	90~250 VAC	Cu plated Ni	
PM12-04SB	SCR					
PM12-04N-E	NPN	4.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM12-04NB-E						
PM12-04P-E						
PM12-04PB-E						
TW12-04C-E	NO	4.0 mm	2 wires			
TW12-04CB-E	NC					
PM12-04N-M12	NPN	4.0 mm	M12	10~30 VDC	Cu plated Ni	
PM12-04NB-M12						
PM12-04P-M12						
PM12-04PB-M12						
TW12-04C-M12	NO	4.0 mm	M12			
TW12-04CB-M12	NC					

Model	Out	Sen. Dist.	mode	Op Volt.	Housing	Outline
PM12-04N-P	NPN	4.0 mm	3 wires	10~30 VDC	PP	
PM12-04NB-P						
PM12-04P-P						
PM12-04PB-P	PNP					
PM12-04S-P	SCR	4.0 mm	2 wires	90~250 VAC		
PM12-04SB-P						
PM18-05NS	NPN	5.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM18-05NBS						
PM18-05PS						
PM18-05PBS	PNP					
TW18-05C	NO	5.0 mm	2 wires			
TW18-05CB	NC					
PM18-05N	NPN	5.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM18-05NB						
PM18-05P						
PM18-05PB	PNP					
PM18-05S	SCR	5.0 mm	2 wires	90~250 VAC		
PM18-05SB						
PM18-05N-M12	NPN	5.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM18-05NB-M12						
PM18-05P-M12						
PM18-05PB-M12	PNP					
TW18-05C-M12	NO	5.0 mm	2 wires			
TW18-05CB-M12	NC					
PM18-08N-P	NPN	8.0 mm	3 wires	10~30 VDC	PP	
PM18-08NB-P						
PM18-08P-P						
PM18-08PB-P	PNP					
PM18-08S-P	SCR	8.0 mm	2 wires	90~250 VAC		
PM18-08SB-P						
PM30-10N	NPN	10.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM30-10NB						
PM30-10P						
PM30-10PB	PNP					
PM30-10S	SCR	10.0 mm	2 wires	90~250 VAC		
PM30-10SB						
PM30-10N-M12	NPN	10.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM30-10NB-M12						
PM30-10P-M12						
PM30-10PB-M12	PNP					
PM30-15N-M12	NPN	15.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM30-15NB-M12						
PM30-15P-M12						
PM30-15PB-M12	PNP					
PM30-15N-P	NPN	15.0 mm	3 wires	10~30 VDC	PP	
PM30-15NB-P						
PM30-15P-P						
PM30-15PB-P	PNP					
PM30-15S-P	SCR	15.0 mm	2 wires	90~250 VAC	PP	
PM30-15SB-P						

Model	Out	Sen. Dist.	mode	Op Volt.	Housing	Outline
CP12-10N	NPN	10.0 mm	3 wires	10~30 VDC	PP	
CP12-10NB						
CP12-10P						
CP12-10PB	PNP					
PM18-08NS	NPN	8.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM18-08NBS						
PM18-08PS						
PM18-08PBS	PNP					
TW18-08C	NO	8.0 mm	2 wires			
TW18-08CB	NC					
PM18-08N	NPN	8.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM18-08NB						
PM18-08P						
PM18-08PB	PNP					
PM18-08S	SCR	8.0 mm	2 wires	90~250 VAC		
PM18-08SB						
PM18-08N-M12	NPN	8.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM18-08NB-M12						
PM18-08P-M12						
PM18-08PB-M12	PNP					
TW18-08C-M12	NO	8.0 mm	2 wires			
TW18-08CB-M12	NC					
CP18-30N	NPN	20.0 mm	3 wires	10~30 VDC	PP	
CP18-30NB						
CP18-30P						
CP18-30PB	PNP					
PM30-15N	NPN	15.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM30-15NB						
PM30-15P						
PM30-15PB	PNP					
PM30-15S	SCR	15.0 mm	2 wires	90~250 VAC		
PM30-15SB						
PM30-15N-S	NPN	15.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM30-15NB-S						
PM30-15P-S						
PM30-15PB-S	PNP					
PM30-20N	NPN	20.0 mm	3 wires	10~30 VDC	Cu plated Ni	
PM30-20NB						
PM30-20P						
PM30-20PB	PNP					
PM30-20N-P	NPN	20.0 mm	3 wires	10~30 VDC	PP	
PM30-20NB-P						
PM30-20P-P						
PM30-20PB-P	PNP					
CP30-50C	NO	30.0 mm	4 wires	10~30 VDC	PP	
CP30-50CB	NC					
CP30-50S	SCR	30.0 mm	2 wires	90~250 VAC		
CP30-50SB						

### ● NT series Temperature Controller

- Intelligence    ● Easiness    ● Performance
- Stability        ● Reliability    ● Sensitivity
- Output volume display
- Load current display
- Turn off control function
- Fast auto-tuning setting
- Soft start function
- Ramp control function
- Manual output control function
- Communication function available
- UL approved



### Ex. NT - 48R - CT - RS

		1	2	3	4	5
1	Series	NT = New generation Temperature controller				
2	Outline	10 = 24*48*100 48 = 48*48*72	20 = 48*96*60 72 = 72*72*60	21 = 96*48*60 96 = 96*96*60	22 = 22.6*75*100	32 = 32*75*65
3	Output method	R = Relay (3A/250VAC)    V = SSR (30mA/12V)    L = Linear output (4~20mA)				
4	Optional	CT = Current detector    mA = DCcurrent input    mV = DC voltage input				
5	Optional	RS = RS-485 Communication (MODBUS)    S = PV Resender				

Specification	Data
Power supply	90~265 VAC/ 50/60 Hz or 24VDC/AC (Optional)
Sensor input	PT / K / J / R / S / T / B / E / N / L (Settable) or 4~mA or 0~10VDC (Optional)
Control method	Fuzzy + PID or ON / OFF selectable
Control output	Relay or SSR or 4~20mA (Optional)
Alarm output	Relay 1a (5A/250VAC SPDT)
Display range	-999 ~ 9999 or -99.9 ~ 999.9
Setting range	-999 ~ 9999 or -99.9 ~ 999.9
Accuracy	±0.1% of FS ± 1 digit

Model	NT-10	NT-48	NT-21	NT-72E
Picture				
Outline	24*48*100	48*48*72	96*48*60	72*72*60
Alarm	Single alarm	Two alarm	Two alarm	Two alarm

型號	NT-22	NT-32	NT-20	NT-96E
照片				
Outline	22.6*75*100	32*75*65	48*96*60	96*96*60
Alarm	Single alarm	Two alarm	Two alarm	Two alarm

### ● HR series Heat Runner controller

- Digitalized phase control, Easy to control the Nozzle heater constantly
- To operate the special function of controller simply.
- High speed response to detect short-circuit of load
- Complete function for Heat Runner & Nozzle heater controller
  - >> Stand-by >> Manual control >> Turn OFF
  - >> Fast AT >> Soft start >> Boost



Type	Standard	Standard+Communication	Short-circuit detect	Short-circuit detect+ Communication
Model	HR-20A	HR-20A-RS	HR-20P	HR-20P-RS
RS-485	Non	RS-485	Non	RS-485
Detect function	Sensor break / Sensorreversed		Sensor break / Sensorreversed / Load short-circuit / Output short-circuit	
Special function	Stand-by / Manual control / Turn OFF / Fast AT / Soft start / Boost			
Specification	Data		Specification	Data
Control method	PID + Fuzzy Phase control		Rated current	16A/250VAC max.
Load voltage	90~265VAC 50/60Hz		Output method	Triac (40A/600VAC) or Relay (5A/250VAC) settable
Power voltage	90~265VAC 50/60Hz		Power freq.	50/60Hz auto detect
Alarm output	Relay (5A/250VAC)		Fuse	20A / 250VAC
Display range	-999 ~ 9999 or -99.9 ~ 999.9 settable		Sensor	K / J / E / L settable
Setting range	-999 ~ 9999 or -99.9 ~ 999.9 settable		Accuracy	± (0.1 % of F.S. + 1 DIGIT)

### ● MT series Temperature Controller

- Fuzzy+PID control
- Multi-input : K/J/PT
- 15 modes of alarm function
- CT or RS-485 optioned
- UL approved



#### Ex. MT - 48R - RS

1      2 3      4

1	Series	MT = Micom Temperature controller		
2	Outline	48 = 48*48*100   21 = 96*48*80   4896 = 48*96*100   72 = 72*72*80   96 = 96*96*80 (Unit : mm)		
3	Output	R : Relay (3A/250VAC)   V : SSR (30mA/12V)   L : Linear output (4~20mA)		
4	Optioned	CT =Heat break detect   mA = DC current input   mV = DC Voltage input		
5	Optioned	RS = RS-485 Communication (MODBUS)   S = PV Resender		
Specification	Data		Specification	Data
Power supply	90~265 VAC/ 50/60 Hz or 24VDC/AC (Optioned)		Alarm output	Relay 1a (5A/250VAC SPDT)
Sensor input	PT / K / J (Selectable) or 4~mA or 0~10VDC (Optioned)		Display range	-999 ~ 9999 or -99.9 ~ 999.9
Control method	Fuzzy + PID or ON / OFF selectable		Setting range	-999 ~ 9999 or -99.9 ~ 999.9
Control output	Relay or SSR or 4~20mA (Optioned)		Accuracy	±0.1% of FS ± 1 digit

### ● TC series Temperature Controller

- High reliability by SMT& TQC.
- With Cold-junction compensation suited to operated at -20°C ~ +60°C.
- All type with sensor break alarm pilot.
- High accuracy of display & setting less than 0.5% FS.
- With stand-by or over-heat alarm (optioned) .
- With heater break alarm (optioned) .



#### Ex. TC - 4896DA - PT-R3 - S - A

1      2 3 4      5 6 7      8      9

1	Series	TC = Temperature controller			6	Output	R=Relay / V= SSR / L= 4~20mA/ N= No output	
2	Outline	4896=48*96 / 48= 48*48 / 72=72*72 / 96=96*96			7	Setting range	「Digital switch」 : 1=0~199/3=0~399/5=0~599/9=0~999 「Trimmer」 : 1=0~100/2=0~200/4=0~400/6=0~600/12=0~1200	
3	Setting	D =Digital switch / A=Trimmer			8	Control	S=ON/OFF   Non=P+D ON/OFF	
4	Display	A=Deviation / D=Digital / N=Non display			9	Alarm	A= Stand-by or over-heat alarm / AH= Stand-by or over-heat + HBalarm	
5	Sensor	PT= RTD PT-100Ω / J=J type / Non=K type (Optioned)						
Specification	Data			Specification	Data			
Power supply	110/220VAC ± 20% 50/60 Hz or 24VDC/AC (Optioned)			Control output	Relay or SSR or 4~20mA (Optioned)			
Sensor input	PT or K or J (Optioned)			Offset adjust	Range of VR : appr.±10°C			
Control method	Fuzzy + PID or ON / OFF (Optioned)			Alarm output	Relay 1a (5A/250VAC SPDT)			
Cycle time	Relay : Appr.20S : SSR : Appr 2S			Alarm range	Range of VR : appr.50°C			

## SC series

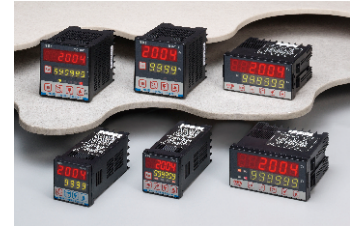
- ⊙ Power : 110/220VAC
- ⊙ Input method : Single or Two phase
- ⊙ Output control : N/R/C
- ⊙ Multiplier : 0.001~9.999
- ⊙ Divisor : 1~9999



Type	Outline	Model	Digit	Setting	Output	Freq.	Type	Outline	Model	Digit	Setting	Output	Freq.	Dimension		
Total	72*72	SC-360	6	Non	Non	30Hz or 2.5KHz selectable	Preset + Total Counter & RPM	72*72	SC-3616	6	Single	One Relay	30Hz or 2.5KHz selectable	72*72 		
	48*96	SC-260	6						SC-3526	6	Two	Two Relay			48*96 	
Single preset	72*72	SC-321	2	Single	One Relay			72*72	SC-3626	6	Two	Two Relay		Two Relay		72*72 
		SC-341	4						SC-326	6					48*96 	
		SC-351	5						SC-362M	6						
		SC-361	6						SC-362Ma	6						
Two preset	72*72	SC-342	4	Two	Two Relay			72*72	SC-362M	6	Two	Two Relay		Two Relay	72*72 	
		SC-352	5						SC-362Ma	6						
		SC-362	6						SC-362Ma	6						
48*96	SC-262	6	SC-362Ma	6	SC-362Ma			6								

## MC series

- ⊙ Power : 90~265VAC
- ⊙ Input method : Single or Two phase
- ⊙ Output control : N/R/C/A
- ⊙ Multiplier : 0.001~9.999



Type	Outline	Model	Digit	Setting	Output	Freq.	Type	Outline	Model	Digit	Setting	Output	Freq.	Dimension			
Total	72*72	MC-360	6	Non	Non	1 ~ 5K Hz settable	Twin Counter & RPM Multi-meter	48*48	MC-426	6	Two	Two Relay	1 ~ 5K Hz settable	48*48 			
	48*96	MC-260	6						72*72	MC-326					6	72*72 	
Single preset	48*48	MC-441	4	Single	One Relay			48*48	MC-226	6	Two	Two Relay		Two Relay	48*48 		
		MC-461	6						72*72	MC-462M						6	72*72 
		MC-341	4						48*96	MC-262M						6	
		MC-361	6						48*48	MC-461T						6	
Two preset	48*96	MC-261	6	Two	Two Relay			48*96	MC-461T	6	Single	One Relay		One Relay	48*96 		
		MC-442	4						72*72	MC-361T						6	
		MC-462	6						48*96	MC-261T						6	
		MC-342	4						72*72	MC-361T						6	
72*72	MC-362	6	72*72	MC-361T	6	72*72	MC-361T	6									
48*96	MC-262	6	48*96	MC-261T	6	48*96	MC-261T	6									

## HC series

- ⊙ Power : 110/220VAC
- ⊙ Input method : Single
- ⊙ Output control : N/R/C
- ⊙ Multiplier : 1~9999



Type	Outline	Model	Digit	Setting	Output	Freq.	Type	Outline	Model	Digit	Setting	Output	Freq.	Dimension	
Total	72*72	HC-4T	4	Non	Non	30/2.5K Hz	Single preset	72*72	HC-21P	2	Single	One Relay	30/2.5K Hz	72*72 	
		HC-5T	5						HC-31P	3					
		HC-6T	6						HC-41P	4					
Dual	72*72	HC-42P	4	Two	Two Relay			72*72	HC-51P	5	Two	Two Relay		Two Relay	72*72 
		HC-52P	5						HC-61P	6					
		HC-42P	4						HC-61P	6					



**MC/H5C/SK series Digital counter**

- ⊙ Power : 90~265VAC
- ⊙ Input method : Single
- ⊙ Output control : N/R/C/A



Outline	Model	Display	Output	Freq.	Reset	Outline	Model	Display	Output	Freq.	Reset	Dimension		
48*48	H5C-4D	4	Relay	30/1K	N/R	50*60	SC-2D	2	Relay	30 / 1K Hz	N / R	48*48	50*60	60*50
	MC48-4D	4	Relay	1~5k Hz	N / R / C		SC-3D	3						
	SC-4D	4												
60*50	MC60-4D	4	Relay			SK-1D	1	Relay	30Hz	Power ON Reset	48.0 10.0 72.5 14.0	50.0 58.0 8.0 70.0 1.40 84.0	62.0 78.0 8.0 70.0 1.40 84.0	
50*60	MC50-4D	4	Relay	SK-2D	2									
SK-3D	3													
							SK-4D	4						

**SM series Tachometer & line speed meter**

- ⊙ Power : 110/220VAC or 90~265VAC
- ⊙ PPR : 1~999
- ⊙ Diameter : 1~999mm
- ⊙ Response : 0.1~99.9ms
- ⊙ Output control : Hi / Lo



Outline	Model	Output	Trans.	Power	Display	Decimal	Meter	Dimension		
28*48 48*96 72*72	SM-10	Relay	Non	90~265 VAC	4 digits	Auto or settable	RPM / LSM / DM selectable	SM-10		
	SM-20	Relay	Non	110/220 VAC				SM-20		
	SM-20S	Non	4~20mA	110/220 VAC				SM-30		
	SM-30	Relay	Non	90~265 VAC				SM-30S		
	SM-30S	Non	4~20mA	90~265 VAC						

**AVR series Voltage regulator**

- ⊙ Power : 90~265VAC
- ⊙ Real time feed back control
- ⊙ Constantly voltage control
- ⊙ Phase control



**TW series Weekly clock**

- ⊙ Power : 90~265VAC
- ⊙ 20 modes of function
- ⊙ 32 segment of preset time per day
- ⊙ With Ni-cd Recharged battery



Outline	Model	RS-485	Output	Output current	Dimension (AVR-48/TW-48)			Outline	Model	Control	Output	Rated current	Dimension (AVR-72/TW-72)		
48*48 72*72	AVR-48A	Non	Triac	5A	48.0 8.0 62.0 70.0	0.98	22.0	48*48	TW-48	Auto / Manual / OFF	Relay	5A / 250VAC	72.0 6.5 32.5 12.0	72*72	
	AVR-48A-RS	RS-485													
	AVR-48L	Non	Photo coupler	10mA											
	AVR-48L-RS	RS-485													
	AVR-72A	Non	Triac	15A											
	AVR-72A-RS	RS-485													

**DPM series Dew point & Humidity & Temperature meter**

- ⊙ Power : 90~265VAC
- ⊙ Accuracy : ± 2.0% RH
- ⊙ Transmitter : 4~20mA
- ⊙ Response time : 15sec



Outline	Model	Trans.	Output	Control	TS	Display range			Accur.	Dimension		
						°C	RH%	Dew				
48*96 96*48	DPM-1	Non	Relay	HI / LO	K / J / PT	0 ~ 99.9°C	0.0 ~ 99.9%	-69 ~ +20°C	± 0.1% of FS	DPM-1		
	DPM-1S	4~20mA								DPM-2		
DPM-2	Non											
DPM-2S	4~20mA											

**MC / H5C / SK / SM / AVR / TW / DPM series**  
  
**CE / RoHS**  
  
**16**



**Ex. DRM - 141 - mV**  
1 2 3 4 5

1	Series	「DRM」=DC meter : 「ARM」= AC meter : 「MV」= Voltage meter 「MA」=Current meter : 「AV」= AC voltage meter : 「DV」= DC voltage meter 「AA」= AC Voltage meter : 「DA」=DC Current meter
2	Outline	「1」= 48*24 : 「2」= 96*48 : 「3」= 72*72
3	Digits	「4」= 4digits : 「5」= 5digits
4	Preset	「T」= Non-preset : 「1」= Single preset
5	Remarks	「mV」= mV input : 「mA」= mA input : 「S」= With resender

## MV / MA series Digital Voltage or Current Meter

- ⊙ Power : 90~265VAC
- ⊙ Output method : Relay
- ⊙ Display range : 0~9999
- ⊙ Accuracy : ± 0.1% of FS
- ⊙ Scale multiplier : 0.01~99.99



Type	Outline	Model	Trans.	Input	Type	Outline	Model	Trans.	Input	Dimension	
										MV-21R / MA-21R	MV-72R / MA-72R
Preset	96*48	MV-21R	Non	0~400 VAC	Preset	96*48	MA-21R	Non	0~5 VAC		
		MV-21R-S	4~20mA	MA-21R-S			4~20mA				
	72*72	MV-72R	Non	0~400 VAC	MA-72R	Non	0~5 VAC				
		MV-72R-S	4~20mA	MA-72R-S	4~20mA						

## AV/DV/AA/DA series Digital Voltage or Current Meter

- ⊙ Power : 110/220 VAC
- ⊙ Response time : 2sec
- ⊙ Span adjuster : Multi-turns VR
- ⊙ Accuracy : ± 0.2% of FS
- ⊙ Decimal point : 0/1/2 selectable



Type	Model	Display	Input	Amp.	Type	Model	Display	Input	Amp.	Type	Model	Display	Input	Amp.	Dimension	
															AA-24T	DA-24T-1
Voltage	AV-24T	1999	0~600 VAC	5 sections	Digital meter	ARM-24T	1999	0~50 VAC	5 sections	Current	AA-24T	1999	0~5A			
	AV-25T	9999	0~600 VDC			ARM-25T	9999	0~200mA			AA-24T-1	1999	0~200mA			
	DV-24T	1999	0~600 VDC			DRM-24T	1999	0~50 VDC			DA-24T	1999	0~5A			
	DV-25T	9999	0~600 VDC			DRM-25T	9999	0~200mA			DA-24T-1	1999	0~200mA			
								DA-24T-2			1999	4~20 mA				

## DRM / ARM series Digital Voltage or Current Meter

- ⊙ Power : 90~265VAC or 24VDC/AC
- ⊙ Output method : Relay
- ⊙ Display range : -1999~9999
- ⊙ Accuracy : ± 0.1% of FS
- ⊙ Decimal point : 0/1/2 selectable



Type	Model	Input	Output	Type	Model	Input	Output	Type	Model	Input	Output	Type	Model	Input	Output	Dimension (DIN48*48)	
																ARM-14T <th>DRM-14T <th>DRM-14T-mV <th>DRM-14T-mA <th>DRM-14T-VR </th></th></th></th>	DRM-14T <th>DRM-14T-mV <th>DRM-14T-mA <th>DRM-14T-VR </th></th></th>
Voltage	AV-14T	600VAC	Non	Voltage	AV-141	600VAC	Relay	Digital meter	ARM-14T	10VAC	Non	Digital meter	ARM-141	10VAC	Relay		
	DV-14T	600VDC			DRM-14T	10VDC			DRM-141	10VDC							
	DV-14T-mV	1.0VDC			DRM-14T-mV	1.0VDC			DRM-141-mV	1.0VDC							
	AA-14T	5A VAC			DRM-14T-mA	20mA			DRM-141-mA	20mA							
	DA-14T	5A VDC			DRM-14T-VR	VR			DRM-141-VR	VR							
	DA-14T-mA	0.2A VDC			DA-141-mA	0.2A VDC											
Current	AA-14T	5A VAC	Non	Current	AA-141	5A VAC	Relay	Digital meter	ARM-14T	10VAC	Non	Digital meter	ARM-141	10VAC	Relay		
	DA-14T	5A VDC			DRM-14T	10VDC			DRM-141	10VDC							
	DA-14T-mA	0.2A VDC			DRM-14T-mV	1.0VDC			DRM-341-mV	1.0VDC							
					DRM-34T-mA	20mA			DRM-341-mA	20mA							
					DRM-34T-VR	VR			DRM-341-VR	VR							
					DA-341-mA	0.2A VDC											

# Digital timer & Phase relay & floatless level relay & Current relay

## TM/TMP/SY/STP/H5T/H5M series Digital timer

- ⊙ Power : 90~265VAC or 24VDC
- ⊙ Timing method selectable
- ⊙ Setting accuracy : 0.05% of FS
- ⊙ Repetivity : 0.1% of FS



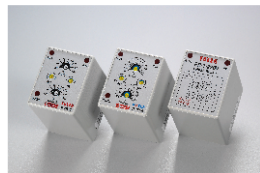
Type	Sh.	Model	Range	Setting	Unit	Control	Reset	Output	Type	Sh.	Model	Range	Setting	Unit	Control	Reset	Output
Power ON delay timer	48*48	TM48-4D	9999	Key	S:0.1S/0.01S/M:0.1M/H:0.1H 99MNSS/99H5SM selectable	Power ON delay	Power off reset	Limit & Instantaneous or Two Limit selectable	Multi-function timer	48*48	TMP48-4D	9999	Key	S:0.1S/0.01S/M:0.1M/H:0.1H 99MNSS/99H5SM selectable	Integrated or ON delay or OFF delay selectable	Manual or Auto reset selectable	N / R / C selectable
		H5T-4D	9999	Switch							H5M-4D	9999	Switch				
		TM50-2D	99	Key							TMP50-2D	99	Key				
		TM50-3D	999	Key							TMP50-3D	999	Key				
	50*60	TM50-4D	9999	Key						TMP50-4D	9999	Key					
		SY-2D	99	Switch						STP-2D	99	Switch					
		SY-3D	999	Switch						STP-3D	999	Switch					
		SY-4D	9999	Switch						STP-4D	9999	Switch					
	60*50	TM60-3D	999	Key						TMP60-3D	999	Key					
		TM60-4D	9999	Key						TMP60-4D	9999	Key					

48*48				50*60				60*50			

## PVR/PR series Phase relay

- ⊙ Power : 220V or 380V or 415V or 440V or 480VAC
- ⊙ Output status : Normal ON



## FR series Floatless level relay

- ⊙ Power : 110V or 220V or 380V or 440V or 480VAC



Model	High Limit	Low Limit	ON Delay	OFF Delay	Output	Power	Dimension	Model	ON Resistor	OFF Resistor	Control Output	Response Time	Power	Dimension
PR-1	non	non	1.0S	1.0S	Relay	220 or 380 or 415 440 or 480 VAC		FR-1	<30KΩ	>60KΩ	Relay	ON<80ms OFF<160ms	110V or 220V or 380V or 440V or 480 VAC	
PVR-3	±20%	±20%	0~10S	0~10S				FR-1L	<4KΩ	>15KΩ				
PVR-4								FR-1H	<70KΩ	>300KΩ				
								FR-2	<30KΩ	>60KΩ				
							2R							

## CR series Current relay

- ⊙ Power : 110V or 220V or 380VAC
- ⊙ Power ON delay : Appr. 2S
- ⊙ Accuracy : 5% of FS
- ⊙ Output status : NO/NC changeable



Type	Model	CT	Input current	Current range	Output method	Gate in	ON delay	Dimension
CT Input	CR-06	CT-06	0~10 mA	0~10A	1a/1b	Non	Non	
		CT-09	0~20 mA	0~20A	1a	NPN	2 S	
		---	0~5A	0~5A	1a	NPN	2 S	

## SQ series Spark quencher

- ⊙ To extend the life of contact
- ⊙ To quench the spark of contact
- ⊙ To quench the noise of coil



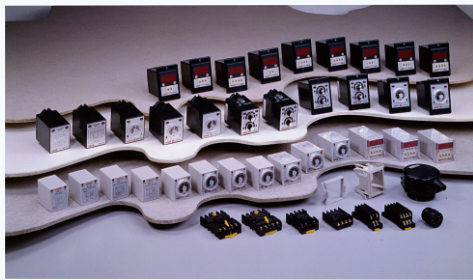
Type	Model	Volt.	C. Value	R. Value	Peak Volt.	R. Watt.	Power Freq.	Dimension
Wire	SQ1-211W	300VAC	0.1 μF	100Ω	750Vp-p	2W	50/60 Hz	
	SQ3-351W	300VAC	0.47 μF	100Ω	900Vp-p			
	SQ3-511W	550VAC	0.1 μF	100Ω	1500Vp-p			
	SQ1-115P	250VAC	0.1 μF	100Ω	500Vp-p			

Type	Model	Volt.	C. Value	R. Value	Peak Volt.	R. Watt.	Power Freq.	Dimension
PCB	SQ3-351W	300VAC	0.47 μF	100Ω	900Vp-p	2W	50/60 Hz	
	SQ3-511W	550VAC	0.1 μF	100Ω	1500Vp-p			
	SQ1-115P	250VAC	0.1 μF	100Ω	500Vp-p			

SY / STP / TM / TMP / H5T / H5M / PR / PVR / FR / SQ series

CE / RoHS



**Ex. H3 - FK - M3 - 220V**  
 1      2      3      4

1	Series	「H3」=40*50 : 「H3B」=40*50 : 「H2Y」=58*88 (Panel) : 「H3Y」=47*70 (Panel) 「H5B」=48*48 : 「TM48」=48*48 : 「STPN」=50*60 : 「STPY」=58*88 (Panel) 「MY」=MYRelaytype : 「TF」=PowerOFFdelay : 「FK」=Flicker 「TDVN」=TwinTimer : 「TDVY」=TwinTimer (Panel) : 「MCVN」=Motorcontroller
2	function	「non」=PowerONdelay : 「FK」=Flicker : 「TRD」=Y-Δ Starter : 「TF」=Poweroffdelay
3	Range	「Mx」=Multi-range : 「xS」=Singlerange (S) : 「xM」=Singlerange (M) : 「xH」=Singlerange (H)
4	Power	「12V」=12VDC : 「24V」=24VDC : 「110V」=110VAC : 「220V」=220VAC

Type	Model (40*50)	Type	Model (40*50)	Type	Model (48*48)	Type	Model (48*48)	Type	Model (50*60)	Type	Model (58*48)	Time Range	Type	Model	Time Range
Power ON Delay	H3-M1	Power ON Delay	H3B-M1	Power ON Delay	H5B-M1	Power ON Delay	TM48-M1	Power ON Delay	STPN-M1	Power ON Delay	STPY-M1	1S/10S/1M/10M	Flicker	H3-FK-M3	3S/30S/3M/30M
	H3-M3		H3B-M3		H5B-M3		TM48-M3		STPN-M3		STPY-M3	3S/30S/3M/30M		H5B-FK-M3	3S/30S/3M/30M
	H3-M6		H3B-M6		H5B-M6		TM48-M6		STPN-M6		STPY-M6	6S/60S/6M/60M		TM48-FK-M3	3S/30S/3M/30M
	H3-M1H		H3B-M1H		H5B-M1H		TM48-M1H		STPN-M1H		STPY-M1H	1M/10M/1H/10H		STPN-FK-M3	3S/30S/3M/30M
	H3-M3H		H3B-M3H		H5B-M3H		TM48-M3H		STPN-M3H		STPY-M3H	3M/30M/3H/30H		STPY-FK-M3	3S/30S/3M/30M
	H3-M6H		H3B-M6H		H5B-M6H		TM48-M6H		STPN-M6H		STPY-M6H	6M/60M/6H/60H			

Type	Model (40*50)	Time Range	Type	Model (40*50)	Time Range	Type	Model (40*50)	Time Range	Type	Model (58*48)	Time Range	Type	Model (58*48)	Time Range	Type	Model (58*48)	Time Range
Power ON Delay	H3-1S	1S	Power ON Delay	H3-3M	3M	Power ON Delay	H3-3H	3H	Power ON Delay	H2Y-1S	1S	Power ON Delay	H2Y-3M	3M	Power ON Delay	H2Y-3H	3H
	H3-3S	3S		H3-6M	6M		H3-6H	6H		H2Y-3S	3S		H2Y-6M	6M		H2Y-6H	6H
	H3-6S	6S		H3-10M	10M		H3-10H	10H		H2Y-6S	6S		H2Y-10M	10M		H2Y-10H	10H
	H3-10S	10S		H3-30M	30M		H3-30H	30H		H2Y-10S	10S		H2Y-30M	30M		H2Y-30H	30H
	H3-30S	30S		H3-60M	60M		H3-60H	60H		H2Y-30S	30S		H2Y-60M	60M		H2Y-60H	60H
	H3-60S	60S								H2Y-60S	60S						

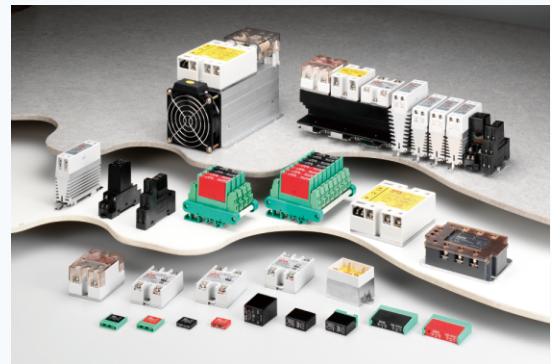
Type	Model (47*70)	Time Range	Type	Model (47*70)	Time Range	Type	Model (47*70)	Time Range	Type	Model (50*40)	Time Range	Type	Model (48*48)	Time Range	Type	Model (50*60)	Time Range
Power ON Delay	H3Y-1S	1S	Power ON Delay	HY3-3M	3M	Power ON Delay	H3Y-3H	3H	Power OFF Delay	H3-TF-3S	3S	Power OFF Delay	H5B-TF-3S	3S	Power OFF Delay	TFN-3S	3S
	H3Y-3S	3S		HY3-6M	6M		H3Y-6H	6H		H3-TF-6S	6S		H5B-TF-6S	6S		TFN-6S	6S
	H3Y-6S	6S		HY3-10M	10M		H3Y-10H	10H		H3-TF-10S	10S		H5B-TF-10S	10S		TFN-10S	10S
	H3Y-10S	10S		HY3-30M	30M		H3Y-30H	30H		H3-TF-30S	30S		H5B-TF-30S	30S		TFN-30S	30S
	H3Y-30S	30S		HY3-60M	60M					H3-TF-60S	60S		H5B-TF-60S	60S		TFN-60S	60S
	H3Y-60S	60S								H3-TF-3M	180S		H5B-TF-3M	180S		TFN-3M	180S

Type	Model (22*28)	Time Range	Type	Model (22*28)	Time Range	Type	Model (22*28)	Time Range	Type	Model (50*60)	Time Range	Type	Model (58*88)	Time Range	Type	Model (40*50)	Time Range
Power ON Delay	MY-1S	1S	Power ON Delay	MY-3M	3M	Power ON Delay	MY-3H	3H	Twin Timer	TDVN-M3	S/M	Twin Timer	TDVY-M3	S/M	Y-Δ Starter Motor control	H3-TRD-30S	30S
	MY-3S	3S		MY-6M	6M		MY-6H	6H		TDVN-M6	S/M		TDVY-M6	S/M			
	MY-6S	6S		MY-10M	10M		MY-10H	10H		TDVN-M3H	M/H		TDVY-M3H	M/H			
	MY-10S	10S		MY-30M	30M		MY-30H	30H		TDVN-M6H	M/H		TDVY-M6H	M/H		MCVN-60S	60S
	MY-30S	30S		MY-60M	60M		MY-60H	60H		TDVN-12H	12H/30S		TDVY-12H	12H/30S		MCVN-180S	180S
	MY-60S	60S															

Dimension			
H3-□□/MCVN-□□ (40*50)	H5B-□□/TM48-□□ (48*48)	H3Y-□□ (47*70)	H2Y-□□ (58*88)

STPN-□□ (50*60)	STPY-□□ (58*88)	TDVN-□□ (50*60)	TDVY-□□ (58*88)

- High Dielectric strength over 4KV
- High Isolation strength over 100MΩ/500VDC
- High surge current sustenance
- High surge voltage sustenance
- Conformity with EN60947-4-3 and EN60950

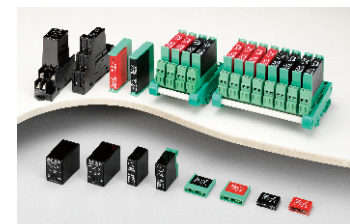


Guiding of model

Terminal type	PCB or Fuse type
<p>Ex: <math>\text{SSR} - \frac{40}{1} \text{DA} - \frac{\text{H}}{2} - \frac{\text{R}}{3} - \frac{\text{R}}{4} - \frac{\text{R}}{5} - \frac{\text{R}}{6}</math></p> <p>1&gt; <u>Product</u>                      「SSR」 = Single phase solid state module                      「HPR」 = Single phase High power solid state module                      「TSR」 = Three phases solid state module                      「ESR」 = Three phases High power solid state module                      「EZR」 = Plug type single phase solid state module</p> <p>2&gt; <u>Output current</u>                      「10」 = 10A 「25」 = 25A 「40」 = 40A                      「50」 = 50A 「60」 = 60A 「80」 = 80A</p> <p>3&gt; <u>Input method</u>                      「D」 = 4 ~ 32VDC : 「A」 = 80 ~ 250VAC                      「L」 = 4 ~ 20mA : 「V」 = Variable resistor</p> <p>4&gt; <u>Output voltage</u>                      「A」 = AC voltage : 「D」 = DC voltage</p> <p>5&gt; <u>Output voltage range</u>                      「H」 = High voltage type : 「Non」 = Standard type</p> <p>6&gt; <u>Control method</u>                      「Non」 = Zero cross control : 「R」 = Random control</p>	<p>Ex: <math>\text{SSR} - \frac{\text{P03}}{1} \text{DA} - \frac{\text{H}}{2} - \frac{\text{H}}{3} - \frac{\text{H}}{4} - \frac{\text{H}}{5} - \frac{\text{H}}{6}</math></p> <p>1&gt; <u>Product</u>                      「SSR」 = Single phase solid state module                      「SCR」 = Single phase linear solid state module</p> <p>2&gt; <u>Mounting method or Others</u>                      「P」 = PCB type : 「M」 = Mini PCB type                      「Y」 = Relay type : 「R」 = Relay type                      「K」 = Heat-sink type : 「F」 = Fuse type</p> <p>3&gt; <u>Output current</u>                      「03」 = 3A 「10」 = 10A 「25」 = 25A 「40」 = 40A</p> <p>4&gt; <u>Input method</u>                      「D」 = 4 ~ 32VDC : 「A」 = 80 ~ 250VAC : 「L」 = 4 ~ 20mA</p> <p>5&gt; <u>Output voltage</u>                      「A」 = AC voltage : 「D」 = DC voltage</p> <p>6&gt; <u>Output voltage range</u>                      「H」 = High voltage type : 「Non」 = Standard type</p>

SSR-Y / SSR-R / SSR-P / SSR-M series Relay & PCB type

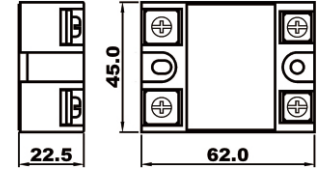
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Type	Model	Rated current	Load voltage	Input voltage	Dimensions	Type	Model	Rated current	Load voltage	Input voltage	Dimensions
MY type	SSR-Y05DA	5A	24~380 VAC	4~32 VDC		POB type	SSR-P03DA	3A	24~380 VAC	4~32 VDC	
	SSR-Y05DD	5A	5~60 VDC	4~32 VDC			SSR-P03DD	3A	5~60 VDC	4~32 VDC	
Relay type	SSR-R02DA	2A	24~380 VAC	4~32 VDC		POB type	SSR-M01DA	1A	24~380 VAC	4~32 VDC	
	SSR-R05DD	5A	5~60 VDC	4~32 VDC			SSR-M05DD	5A	5~60 VDC	4~32 VDC	

### SSR / SCR series Standard type

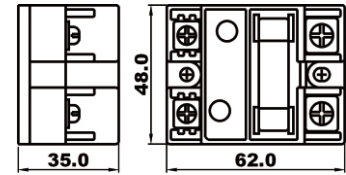
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Type	Model	Rated current	Load voltage	Input voltage	Type	Model	Rated current	Load voltage	Input voltage	Type	Model	Rated current	Load voltage	Variable resistance
DC to AC	SSR-10DA	10A	24~380 VAC	4 ~ 32 VDC	AC to AC	SSR-10AA	10A	24~380 VAC	80 ~ 250 VAC	AC to AC	SSR-10VA	10A	24~380 VAC	250KΩ /110VAC 500KΩ /220VAC
	SSR-25DA	25A				SSR-25AA	25A				SSR-25VA	25A		
	SSR-40DA	40A				SSR-40AA	40A				SSR-40VA	40A		
	SSR-50DA	50A				SSR-50AA	50A				SSR-50VA	50A		
	SSR-75DA	75A				SSR-75AA	75A				SSR-75VA	75A		
	SSR-10DA-H	10A	90~480 VAC			SSR-10AA-H	10A	90~480 VAC			SSR-10VA-H	10A	90~480 VAC	1MΩ /380VAC 2MΩ /480VAC
	SSR-25DA-H	25A				SSR-25AA-H	25A				SSR-25VA-H	25A		
	SSR-40DA-H	40A				SSR-40AA-H	40A				SSR-40VA-H	40A		
	SSR-50DA-H	50A				SSR-50AA-H	50A				SSR-50VA-H	50A		
	SSR-75DA-H	75A				SSR-75AA-H	75A				SSR-75VA-H	75A		
Type	Model	Rated current	Load voltage	Input current	Type	Model	Rated current	Load voltage	Input current	Type	Model	Rated current	Load voltage	Input voltage
Line control	SCR-10LA	10A	90~250 VAC	4~20 mA	Line control	SCR-10LA-H	10A	250~480 VAC	4~20 mA	DC to DC	SSR-05DD	5A	5~60 VDC	4 ~ 32 VDC
	SCR-25LA	25A				SCR-25LA-H	25A				SSR-10DD	10A	5~120 VDC	
	SCR-40LA	40A				SCR-40LA-H	40A				SSR-25DD	25A		
	SCR-50LA	50A				SCR-50LA-H	50A				SSR-50DD	50A		
	SCR-75LA	75A				SCR-75LA-H	75A				SSR-75DD	75A		
											SSR-25DD-H	25A	5~300 VDC	
											SSR-50DD-H	50A		
											SSR-75DD-H	75A		

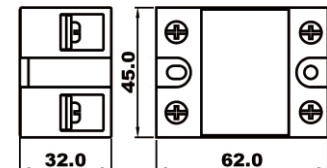
### SSR-F series Fuse type

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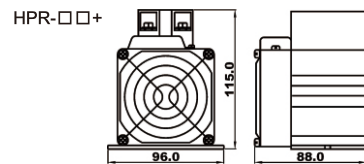


Type	Model	Fuse	Rated current	Load volt.	Input volt.	Type	Model	Fuse	Rated current	Load volt.	Input volt.	Type	Model	Fuse	Rated current	Load volt.	Input current
DC to AC	SSR-F-10DA	10A	6A	24~380 VAC	4 ~ 32 VDC	AC to AC	SSR-F-10AA	10A	6A	24~380 VAC	80 ~ 250 VAC	Line control	SCR-F-10LA	10A	6A	90~250 VAC	4~20 mA
	SSR-F-25DA	25A	16A				SSR-F-25AA	25A	16A				SCR-F-25LA	25A	16A		
	SSR-F-40DA	32A	25A				SSR-F-40AA	32A	25A				SCR-F-40LA	32A	25A		
	SSR-F-10DA-H	10A	6A				SSR-F-10AA-H	10A	6A				SCR-F-10LA-H	10A	6A		
	SSR-F-25DA-H	25A	16A				SSR-F-25AA-H	25A	16A				SCR-F-25LA-H	25A	16A		
	SSR-F-40DA-H	32A	25A	SSR-F-40AA-H			32A	25A	SCR-F-40LA-H	32A			25A				

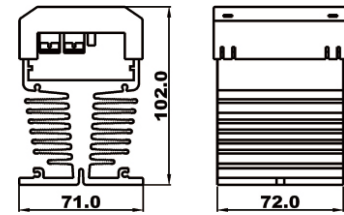
### HPR series High power type



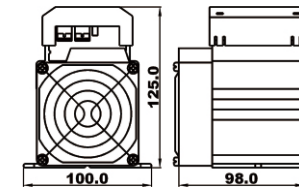
Type	Model	Rated current	Load voltage	Input voltage	Type	Model	Rated current	Load voltage	Input current
DC to AC	HPR-60DA	60A	24~380 VAC	4 ~ 32 VDC	AC to AC	HPR-60AA	60A	24~380 VAC	20~265 VAC/DC
	HPR-80DA	80A				HPR-80AA	80A		
	HPR-100DA	100A				HPR-100AA	100A		
	HPR-60DA-H	60A	24~550 VAC			HPR-60AA-H	60A		
	HPR-80DA-H	80A				HPR-80AA-H	80A		
	HPR-100DA-H	100A				HPR-100AA-H	100A		



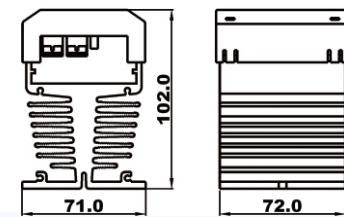
**ASR / ACR series**  
Enhanced heat sink type



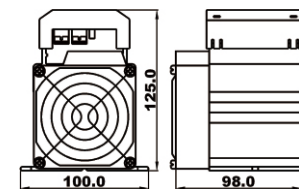
Type	Model	Fan	Rated current	Load voltage	Input voltage	Type	Model	Fan	Rated current	Load voltage	Input current
Dc to Ac	ASR-40DA	Non	32A	24~550 VAC	4 ~ 32 VDC	line control	ACR-40LA	Non	32A	90~250 VAC	4~20 mA
	ASR-60DA	Non	48A				ACR-60LA	Non	48A		
	ASR-80DA+	Yes	64A				ACR-80LA+	Yes	64A		
	ASR-100DA+	Yes	80A				ACR-100LA+	Yes	80A		
Ac to Ac	ASR-40AA	Non	32A	24~550 VAC	80~250 VAC	line control	ACR-40LA-H	Non	32A	250~480 VAC	4~20 mA
	ASR-60AA	Non	48A				ACR-60LA-H	Non	48A		
	ASR-80AA+	Yes	64A				ACR-80LA-H+	Yes	64A		
	ASR-100AA+	Yes	80A				ACR-100LA-H+	Yes	80A		



**ASR-F / ACR-F series**  
Enhanced heat sink fuse type

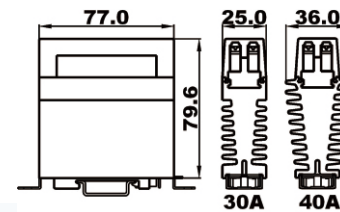


Type	Model	Fan	Fuse	Rated current	Load voltage	Input voltage	Type	Model	Fan	Fuse	Rated current	Load voltage	Input current
Dc to Ac	ASR-F-40DA	Non	63A	32A	24~550 VAC	4 ~ 32 VDC	line control	ACR-F-40LA	Non	63A	32A	90~250 VAC	4~20 mA
	ASR-F-60DA	Non	80A	48A				ACR-F-60LA	Non	80A	48A		
	ASR-F-80DA+	Yes	100A	64A				ACR-F-80LA+	Yes	100A	64A		
	ASR-F-100DA+	Yes	125A	80A				ACR-F-100LA+	Yes	125A	80A		
Ac to Ac	ASR-F-40AA	Non	63A	32A	24~550 VAC	80~250 VAC	line control	ACR-F-40LA-H	Non	63A	32A	250~480 VAC	4~20 mA
	ASR-F-60AA	Non	80A	48A				ACR-F-60LA-H	Non	80A	48A		
	ASR-F-80AA+	Yes	100A	64A				ACR-F-80LA-H+	Yes	100A	64A		
	ASR-F-100AA+	Yes	125A	80A				ACR-F-100LA-H+	Yes	125A	80A		



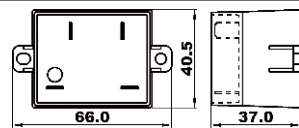
**SSR-K series Rail type**

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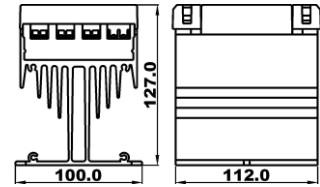


Type	Model	Rated current	Load voltage	Input voltage	Type	Model	Rated current	Load voltage	Input voltage	Type	Model	Rated current	Load voltage	Input current
Dc to Ac	SSR-K10DA	10A	24~380 VAC	4 ~ 32 VDC	Ac to Ac	SSR-K10AA	10A	24~380 VAC	20~265 VAC/DC	line control	SCR-K10LA	10A	90~250 VAC	4~20 mA
	SSR-K20DA	20A				SSR-K20AA	20A				SCR-K20LA	20A		
	SSR-K30DA	30A				SSR-K30AA	30A				SCR-K30LA	30A		
	SSR-K40DA	40A				SSR-K40AA	40A				SCR-K40LA	40A		
	SSR-K10DA-H	10A	90~550 VAC	4 ~ 32 VDC		SSR-K10AA-H	10A	90~550 VAC	20~265 VAC/DC		SCR-K10LA-H	10A	250~480 VAC	4~20 mA
	SSR-K20DA-H	20A				SSR-K20AA-H	20A				SCR-K20LA-H	20A		
	SSR-K30DA-H	30A				SSR-K30AA-H	30A				SCR-K30LA-H	30A		
	SSR-K40DA-H	40A				SSR-K40AA-H	40A				SCR-K40LA-H	40A		

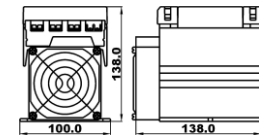
Type	Model	Rated current	Load voltage	Input voltage	Type	Model	Rated current	Load voltage	Input voltage
Dc to Dc	SSR-K25DD	25A	5~60	4 ~ 32 VDC	Plug type	EZR-40DA	16A	24~380	4 ~ 32 VDC
	SSR-K10DD-H	10A	5~150			EZR-40DA-H	16A	90~480	
	SSR-K10LD	10A	5~60 VDC	4~20 mA		EZR-40AA	16A	24~380	90~250 VAC
						EZR-40AA-H	16A	90~480	



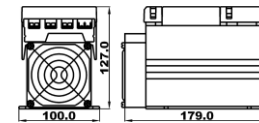
### LSR series 3 Phase Enhanced heat sink fuse type



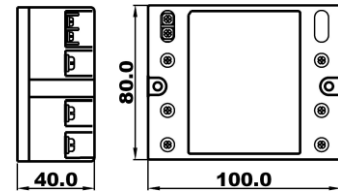
Type	Model	Fan	Fuse	Rated current	Load voltage	Input voltage	Type	Model	Fan	Fuse	Rated current	Load voltage	Input voltage
Dc to Ac	LSR-25DA	non	-	20A	24~550 VAC	4 ~ 32 VDC	Ac to Ac	LSR-25AA	non	-	20A	24~550 VAC	20~265 VAC
	LSR-40DA+	V	-	32A				LSR-40AA+	V	-	32A		
	LSR-60DA+	V	-	48A				LSR-60AA+	V	-	48A		
	LSR-80DA+	V	-	64A				LSR-80AA+	V	-	64A		
	LSR-100DA+	V	-	80A				LSR-100AA+	V	-	80A		



Type	Model	Fan	Fuse	Rated current	Load voltage	Input voltage	Type	Model	Fan	Fuse	Rated current	Load voltage	Input voltage
Dc to Ac	LSR-F-25DA	non	35A	20A	24~550 VAC	4 ~ 32 VDC	Ac to Ac	LSR-F-25AA	non	35A	20A	24~550 VAC	20~265 VAC
	LSR-F-40DA+	V	63A	32A				LSR-F-40AA+	V	63A	32A		
	LSR-F-60DA+	V	80A	48A				LSR-F-60AA+	V	80A	48A		
	LSR-F-80DA+	V	100A	64A				LSR-F-80AA+	V	100A	64A		
	LSR-F-100DA+	V	125A	80A				LSR-F-100AA+	V	125A	80A		

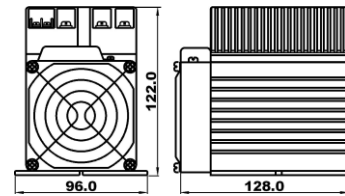


### ESR series 3 Phase SSR



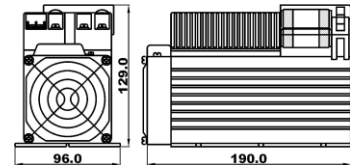
Type	Model	Fan	Fuse	Rated current	Load voltage	Input voltage	Type	Model	Fan	Fuse	Rated current	Load voltage	Input voltage
Dc to Ac	ESR-25DA	non	-	25A	24~380 VAC	4 ~ 32 VDC	Ac to Ac	ESR-25AA	non	-	25A	24~380 VAC	20~265 VAC
	ESR-40DA	non	-	40A				ESR-40AA	non	-	40A		
	ESR-60DA	non	-	60A				ESR-60AA	non	-	60A		
	ESR-80DA	non	-	80A				ESR-80AA	non	-	80A		
	ESR-100DA	non	-	100A				ESR-100AA	non	-	100A		
	ESR-25DA-H	non	-	25A	90~480 VAC	4 ~ 32 VDC		ESR-25AA-H	non	-	25A	90~480 VAC	20~265 VAC
	ESR-40DA-H	non	-	40A				ESR-40AA-H	non	-	40A		
	ESR-60DA-H	non	-	60A				ESR-60AA-H	non	-	60A		
	ESR-80DA-H	non	-	80A				ESR-80AA-H	non	-	80A		
	ESR-100DA-H	non	-	100A				ESR-100AA-H	non	-	100A		

ESR-□□□+ Heat sink (HS-ESR-100) + Fan

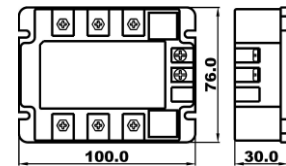


Type	Model	Fan	Fuse	Rated current	Load voltage	Input voltage	Type	Model	Fan	Fuse	Rated current	Load voltage	Input voltage
Dc to Ac	ESR-40DA+	V	63A	40A	24~380 VAC	4 ~ 32 VDC	Ac to Ac	ESR-40AA+	V	63A	40A	24~380 VAC	20~265 VAC
	ESR-60DA+	V	80A	60A				ESR-60AA+	V	80A	60A		
	ESR-80DA+	V	100A	80A				ESR-80AA+	V	100A	80A		
	ESR-100DA+	V	125A	100A				ESR-100AA+	V	125A	100A		
	ESR-40DA-H+	V	63A	40A				ESR-40AA-H+	V	63A	40A		
	ESR-60DA-H+	V	80A	60A	ESR-60AA-H+	V		80A	60A				
	ESR-80DA-H+	V	100A	80A	ESR-80AA-H+	V		100A	80A				
	ESR-100DA-H+	V	125A	100A	ESR-100AA-H+	V		125A	100A				

ESR-□□□+ Heat sink (HS-ESR-100) + Fan

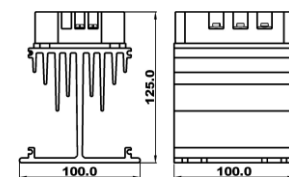


### TSR series 3 Phase SSR



Type	Model	Rated current	Load voltage	Input voltage	Type	Model	Rated current	Load voltage	Input voltage
Dc to Ac	TSR-25DA	25A	24~380 VAC	4 ~ 32 VDC	Ac to Ac	TSR-25AA	25A	24~380 VAC	80~250 VAC
	TSR-40DA	40A				TSR-40AA	40A		
	TSR-50DA	50A				TSR-50AA	50A		
	TSR-75DA	75A				TSR-75AA	75A		
	TSR-25DA-H	25A				90~480 VAC	TSR-25AA-H		
	TSR-40DA-H	40A	TSR-40AA-H				40A		
	TSR-50DA-H	50A	TSR-50AA-H				50A		
	TSR-75DA-H	75A	TSR-75AA-H				75A		

TSR-□□□+ Heat sink



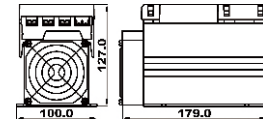


## ■ LCR series Digital Power Regulator [ 3 phase/3 wires ]

- ⊙ Power frequency 50/60 Hz auto-detect
- ⊙ Zero cross control or phase control selectable
- ⊙ Soft start / kick start time settable
- ⊙ Multi-input type selectable  
4~20mA / 0~20mA / 1~5V / 2~10V / 0~5V / 0~10V or VR-10KΩ

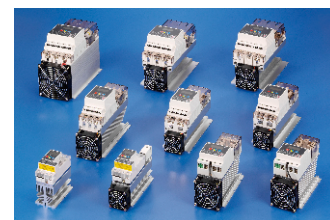


Type	Model	Fuse	Max. load	Rated load	Control method	Load voltage	Aux. power	Type	Model	Fuse	Max. load	Rated load	Control method	Load voltage	Aux. power
Standard	LCR-40	63A	40A	32A	Zero or Phase selectable	180~440VAC 50/60Hz	90~265VAC 50/60Hz	High voltage	LCR-40H	63A	40A	32A	Zero or Phase selectable	280~550VAC 50/60Hz	90~265VAC 50/60Hz
	LCR-60	80A	60A	48A					LCR-60H	80A	60A	48A			
	LCR-80	100A	80A	64A					LCR-80H	100A	80A	64A			
	LCR-100	125A	100A	80A					LCR-100H	125A	100A	80A			

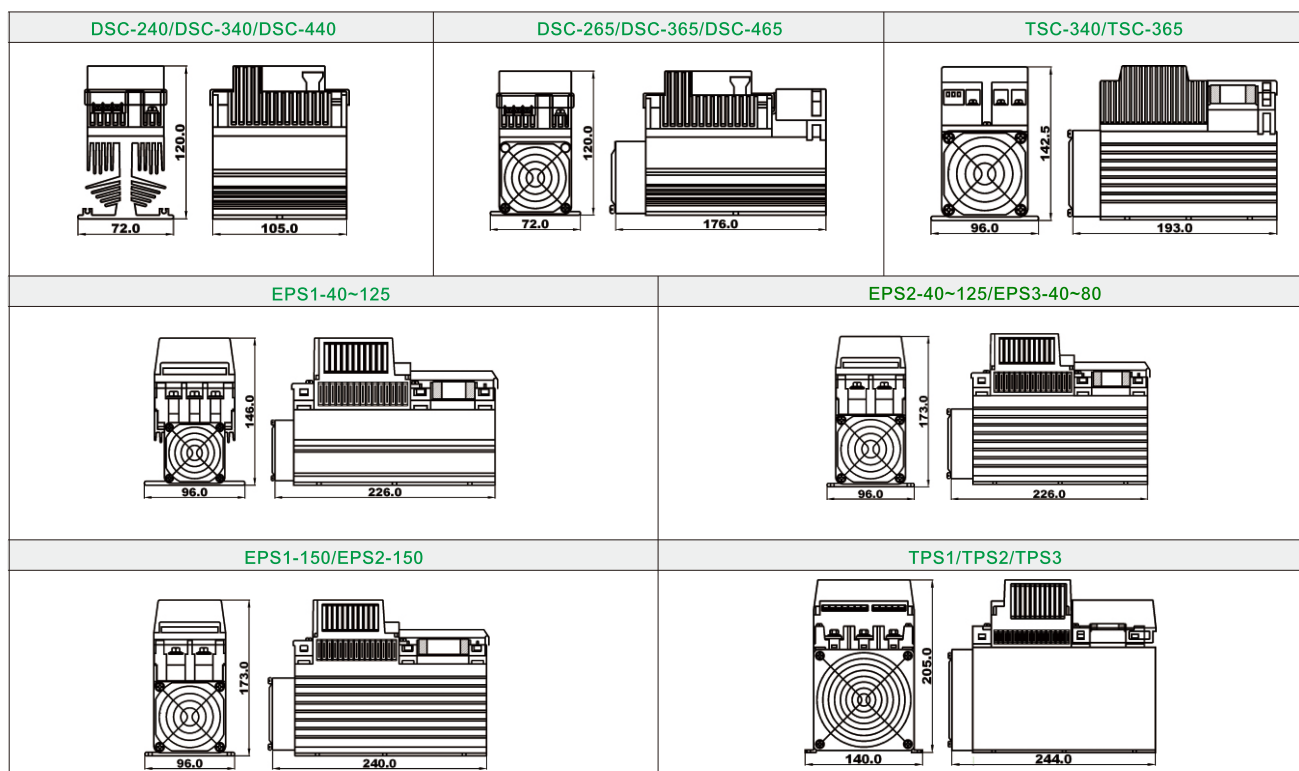


## ■ TSC/DSC/EPS/TPS series Digital Power Regulator

- ⊙ Power frequency 50/60 Hz auto-detect
- ⊙ Zero cross control or phase control selectable
- ⊙ Soft start / kick start time settable
- ⊙ Multi-input type selectable  
4~20mA / 0~20mA / 1~5V / 2~10V / 0~5V / 0~10V or VR-10KΩ



Type	Model	Fuse	Max. load	Rated load	Aux. power	Load voltage	Type	Model	Fuse	Max. load	Rated load	Aux. power	Load voltage	Type	Model	Fuse	Max. load	Rated load	Aux. power	Load voltage				
3 phase	TSC-340	63A	40A	32A	90~265 VAC 50/60Hz 220 or 380 VAC	180~440VAC 50/60Hz	3 phase	TPS3-40	63A	40A	32A	220 or 380VAC 50/60Hz	180~440VAC 50/60Hz	2 phase single	TPS2-100	125A	100A	80A	220 or 380VAC 50/60Hz	180~440VAC 50/60Hz				
	TSC-365	80A	65A	48A				TPS3-60	80A	60A	48A				TPS2-125	125A	125A	100A			TPS2-160	160A	160A	125A
	EPS3-40	63A	40A	32A				TPS3-80	100A	80A	64A				TPS2-200	200A	200A	160A			TPS1-160	160A	160A	125A
	EPS3-60	80A	60A	48A				TPS3-100	125A	100A	80A				TPS1-200	200A	200A	160A						
	ESP3-80	100A	80A	64A				TPS3-125	125A	125A	100A													
								TPS3-160	160A	160A	125A													
								TPS3-200	200A	200A	160A													
single phase	DSC-240	32A	32A	25A	220VAC 380VAC 440VAC 220VAC 380VAC 440VAC	180~440VAC 50/60Hz	single phase	EPS1-40	63A	40A	32A	220 or 380VAC 50/60Hz	180~440VAC 50/60Hz	2 phase	EPS2-40	63A	40A	32A	220 or 380VAC 50/60Hz	180~440VAC 50/60Hz				
	DSC-340	32A	32A	25A				380VAC	EPS1-60	80A	60A				48A	EPS2-60	80A	60A			48A			
	DSC-440	32A	32A	25A				440VAC	EPS1-80	100A	80A				64A	EPS2-80	100A	80A			64A			
	DSC-265	80A	65A	48A				220VAC	EPS1-100	125A	100A				80A	EPS2-100	125A	100A			80A			
	DSC-365	80A	65A	48A				380VAC	EPS1-125	125A	125A				100A	EPS2-125	125A	125A			100A			
	DSC-465	80A	65A	48A				440VAC	EPS1-150	160A	150A				125A	EPS2-150	160A	150A			125A			



■ How to use Heat sink & Cooling fan for HPR series

Line current (Average current)	Heat sink	Cooling fan	Heat sink (HS-50H)
IL < 5 Amps	Non-required	Non-required	
IL < 12 Amps	HS-50H	Non-required	
IL < 25 Amps	HS-ESR-60	Non-required	
IL > 25 Amps	HS-ESR-60	Required	

■ Notice of use

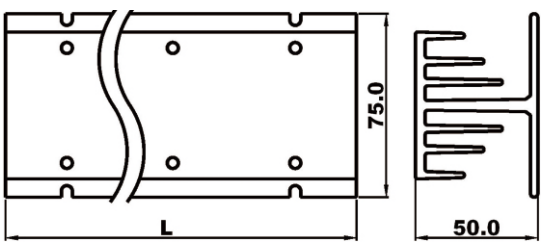
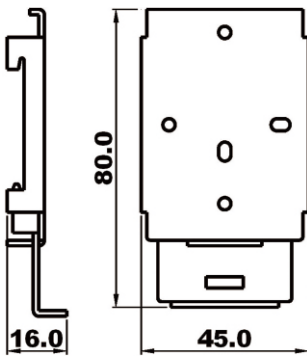
- 1> To protect the solid state module against a short-circuit of the load, please use a fuse with a I<sup>2</sup>t value < 1/2 I<sup>2</sup>t value specified.
- 2> The thermal conductive silicone rubber or thermal grease is required When the solid state module is mounted on a heat sink
- 3> The rated current is corresponding to a resistive load, if the solid state module is applied in other loads, Please consider the inrush current at turn on and the surge voltage at turn off.
  - \* Electric discharge lamps : Those loads have the 「inrush current」 at turn on and the 「surge voltage」 at turn off, please use 「high voltage type」 on 220VAC mains.
  - \* Incandescent lamp : The rated current of the module must be over 4 times of the incandescent lamp current.
  - \* Three phase motors : The rated current of the s module must be over 4 times of the three phase motor average current .
  - \* Transformer loads : The rated current of the module must be over 10 times of the transformer current.
  - \* Capacitor loads, the rated current of the module must be over 3 times of the capacitor current .

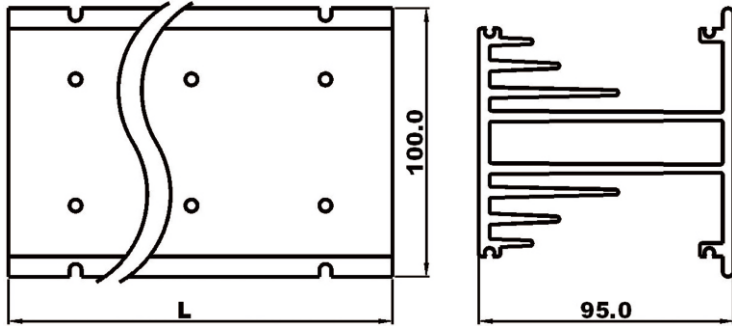
■ Notice of safety



Potentially hazardous situation, if mishandling, may result in death or serious injury.

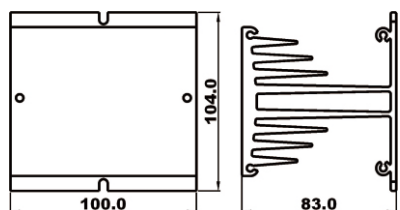
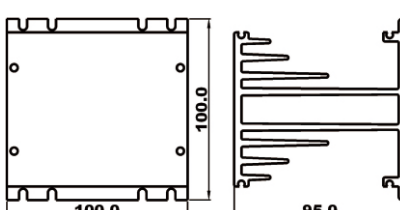
- 1> Please do not touch any terminal of this module while power supply is supplied, if do, it may result in electronic shock.
- 2> 「Power supply system」 must to be shutdown before renew the fuse, if not, it may result in electronic shock.
- 3> Please rated the load current within the specified value, if not, it may result to burn up this module or fuse.
- 4> Please tighten the screw terminal over 100kg-cm, if not, it may result to burn up this module or fuse.
- 5> If this module is burned up, it may be in short circuit condition or malfunction, Please settle an independent alarm system to ensure safety protection, if not, it may result in a serious accident.

H type	H type Rail bracket (HS-BR-1)																												
																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Model</th> <th>Length(L mm)</th> <th>Current duration</th> <th>PCS for SSR</th> </tr> </thead> <tbody> <tr> <td>HS-50H</td> <td>50.0</td> <td>10A max.</td> <td>Single</td> </tr> <tr> <td>HS-100H</td> <td>100.0</td> <td>20A max.</td> <td>Twice</td> </tr> <tr> <td>HS-150H</td> <td>150.0</td> <td>30A max.</td> <td>Three</td> </tr> <tr> <td>HS-200H</td> <td>200.0</td> <td>---</td> <td>Four</td> </tr> <tr> <td>HS-200H</td> <td>250.0</td> <td>---</td> <td>Five</td> </tr> <tr> <td>HS-200H</td> <td>300.0</td> <td>---</td> <td>Six</td> </tr> </tbody> </table>	Model	Length(L mm)	Current duration	PCS for SSR	HS-50H	50.0	10A max.	Single	HS-100H	100.0	20A max.	Twice	HS-150H	150.0	30A max.	Three	HS-200H	200.0	---	Four	HS-200H	250.0	---	Five	HS-200H	300.0	---	Six	
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Standard type (HS-xxE)																									
																									
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**How to use Heat sink & Cooling fan for 3 phases**

Line current (Average current / 平均電流)	Heat sink	Cooling fan	Calculating of Line current
IL < 5 Amps	Non-required	Non-required	$IL = W \div (\sqrt{3} \times VL \times \cos \theta)$ $IL = W \div (\sqrt{3} \times VL \times \cos \theta)$ VL : Line voltage ; cos θ : Power factor
IL < 10 Amps	HS-ESR-100	Non-required	
IL > 10 Amps	HS-ESR-100	Required	

HS-ESR-100K	HS-TSR-100E
	

**Model of cooling fan :** 1. SF23080H for HS-ESR-100 2. SF23092A for HS-xxE



**To make  
smarter & more efficiencies**



**Counter**



**MC series Counter**



**HC series Counter**



**Voltage & current meter**



**Timer**



**Weekly clock**



**Dew meter**



**Reed sensor**



**Hall sensor**



**Spark quencher**



**Flow meter & sensor**



**Thermal mass flow sensor**



**Auto-door Photo sensor**



**Current relay**



**Sensor controller**

- ※ To offer excellent quality assurance By 『Advance technology & TQC』
- ※ To Research & design 『More reliable & performance』 product on us' s position
- ※ To produce the world-standard controls By conformity 『IEC Standard』
- ※ To persuit for 『Forever development 』 by satisfy customer

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