

Subminiature Power Relay ETS



- Slim size (width 5mm)
- High breakdown voltage 4kV (between coil and contacts)
- Surge voltage up to 6kV (between coil and contacts)
- Clearance/creepage distance: 8mm
- High sensitive: 170mW
- 1 Form A and 1 Form C configurations



Options and ordering codes

ETS	-	1A		-	N		-	S		-	L		-	12VDC
Contact Form		1A									L			Coil Voltage
SPNO		1A									L			RoHS Compliant
SPCO		1C												
Contact Material					N			S					Sealing	
AgNi					N			S					Sealed	
AgNi + Au Plate					N1									

Contact Data

Contact arrangement	1A, 1C
Initial contact resistance Max.	100mΩ (at 1A 6VDC) Gold plated: 30mΩ (at 1A 6VDC)
Contact material	AgNi
Contact Rating (Res. load)	6A 250VAC / 30VDC
Max. switching voltage	400VAC / 125VDC
Max. switching current	6A
Max. switching power	1500VA / 180W
Mechanical Life	1x10 ⁷ OPS
Electrical Life	NO / NC: 1x10 ⁴ OPS (at 85°C)

Characteristics

Initial Insulation Resistance	1000MΩ @ 500VDC	
Dielectric Strength	Between coil & contact	4000VAC 1min.
	Between open contacts	1000VAC 1min.
Operate time (at nomi. Volt)	Max. 8ms	
Release time (at nomi. Volt)	Max. 4ms	
Shock Resistance	Functional	50m/s ²
	Destructive	1000m/s ²
Vibration Resistance	10 to 55Hz 1mm DA	
Humidity	5 to 85% RH	
Ambient Temp	-40°C to +85°C	
Termination	PCB	
Unit Weight	5.4g	
Construction	Sealed IP67, Flux proof	

Coil

Coil power	5 to 24VDC: 170mW 48VDC, 60VDC: 210mW
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Coil Data

Coil Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max allowable voltage (VDC 85°C)	Coil Resistance Ω ± 10%
5	3.75	0.25	7.5	147±10%
6	4.50	0.30	9.0	212±10%
9	6.75	0.45	13.5	476±10%
12	9.00	0.60	18	848±10%
18	13.5	0.90	27	1906±15%
24	18.0	1.20	36	3390±15%
48	36.0	2.40	72	10600±15%
60	45.0	3.00	90	16600±15%

Notes: 1) When require pick-up voltage=70% nominal voltage, special order allowed
2) When install 1 Form C type of ETS, please do not make the relay side with 5mm width down

Safety Approval Ratings

UL & CUR	6A 30VDC Resistive: 6A 277VAC Pilot duty: R300
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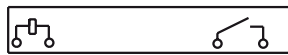
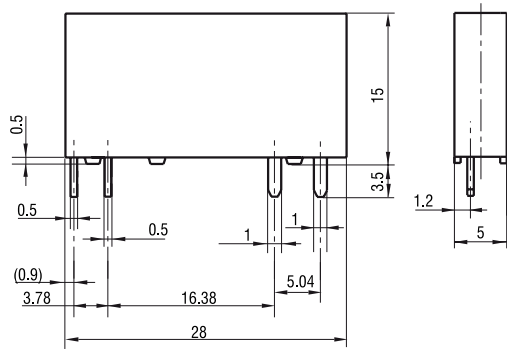
Subminiature Power Relay ETS continued



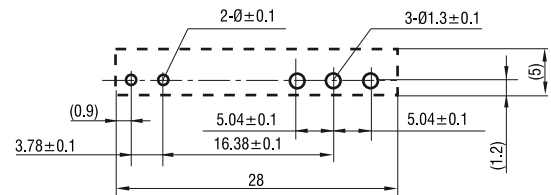
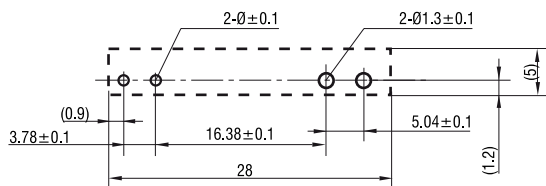
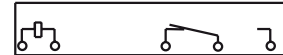
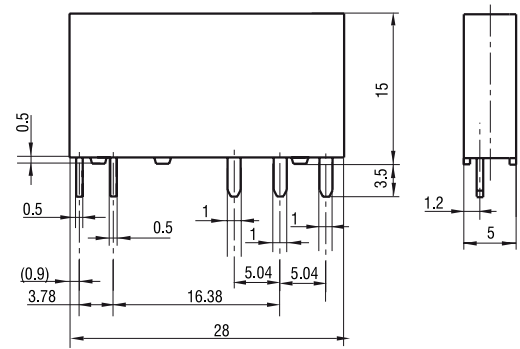
Outline dimensions (mm)

Wiring diagram and PC Board layout

1A

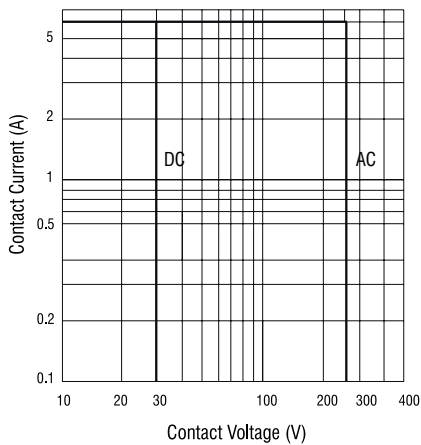


1C

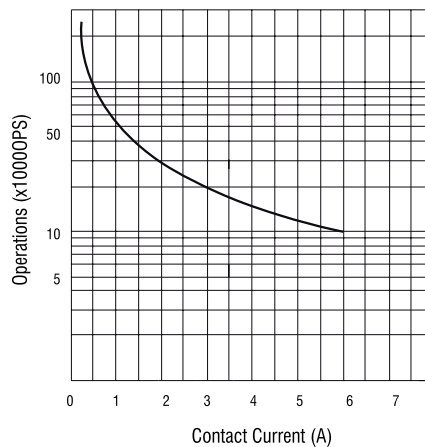


Characteristic Curve

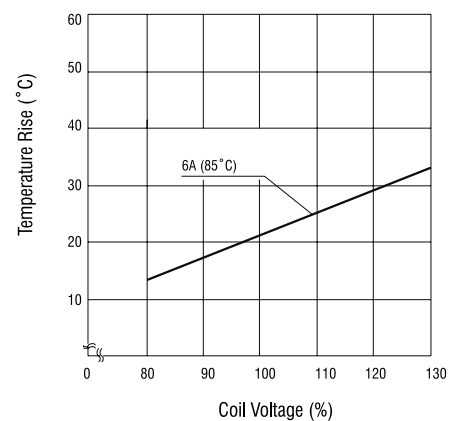
MAX. SWITCHING POWER



LIFE CURVE



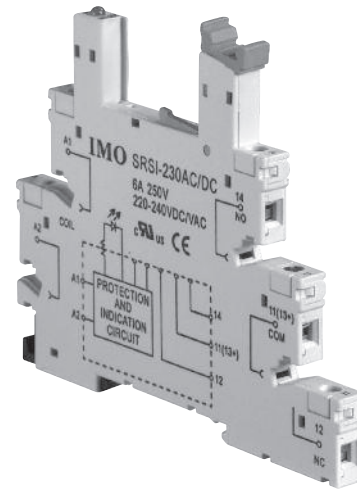
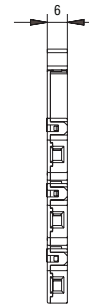
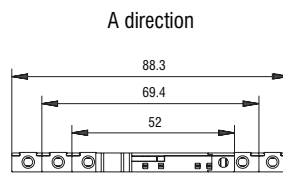
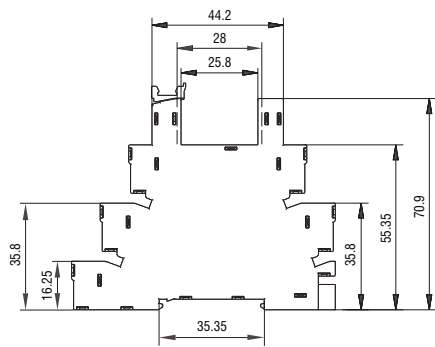
COIL TEMPERATURE RISE



Characteristics

Ambient temperature	-40 to 70 °C
Rated voltage	250VAC
Rated current	6A (Per pole)
Insulation voltage (min.)	5000VAC
Protection degree	IP20
Socket material	PA66+GF V0 (UL)
Contacts spring material	QSn6.5-0.1
Retainer	No
Modules (on request)	Self-contained
Terminal torque	0.6Nm
Wire strip length	7mm

Outline dimensions

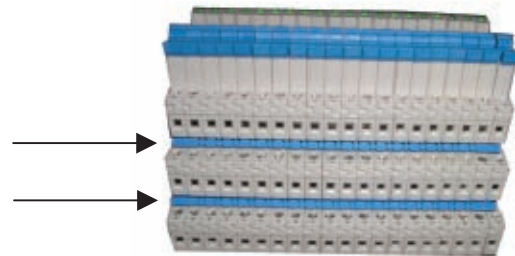


Socket/relay compatibility

Socket P/N	Input voltage	Relay coil voltage
SRSI-24AC/DC	6 to 24VDC/VAC	6 to 24VDC
SRSI-60AC/DC	48 to 60VDC/VAC	48 to 60VDC
SRSI-110AC/DC	110 to 125VDC/VAC	60VDC
SRSI-230AC/DC	220 to 240VDC/VAC	60VDC
SRSI-24DC*	5 to 24 DC Only	5 to 24VDC

*Note: Input voltage polarity required.

SRSI- CC20 Busbar available in 20 way



Miniature General Purpose Relay HY



General purpose 5,7 amp Plug in Power Relay,
available in 2PCO, 3PCO and 4PCO

- Arc barriers prevent flashover between contacts
- Manual operator for circuit testing with latch facility
colour coded for AC/DC identification
- Mechanical flag indicator showing armature operation
- LED indicators showing coil energisation
- UL and cUL approvals



Options and ordering codes

HY	4	1	PN	230VAC
General purpose power relay				For coil voltage see table
2 pole changeover	2		PN	Mechanical indicator/test latch LED
3 pole changeover	3		XN	Indicator only
4 pole changeover	4		PX	Test only
Plug in		1	XX	No indication or test
PCB		2		

Specification

Type	HY21 Resistive	HY31 Resistive	HY41 Resistive
Contact configuration	2PCO	3PCO	4PCO
Rated load @ 250VAC/24VDC	7A	7A	5A
Rated current	7A	7A	5A
Maximum switching voltage AC/DC	250	250	250
Maximum breaking capacity	1750VA	1750VA	1250VA
Operate time (typical value)	25ms	25ms	25ms
Release time (typical value)	25ms	25ms	25ms
Dielectric strength coil – contact	1500 VAC	1500VAC	1500 VAC
Ambient operating temperature	-55°C +70°C	-55°C +70°C	-55°C +70°C
Mechanical service life	20 million ops. minimum	20 million ops. minimum	20 million ops. minimum
Electrical service life at load	100,000 ops. minimum	100,000 ops. minimum	100,000 ops. minimum
Protection degree	IP40	IP40	IP40
Contact material	AgNi	AgNi	AgNi
Voltage range	80-110%	80-110%	80-110%
Power consumption	1.2 VA AC : 0.9 W DC	1.2 VA AC : 0.9 W DC	1.2 VA AC : 0.9 W DC
Weight	37g	37g	37g

Miniature General Purpose Relay HY



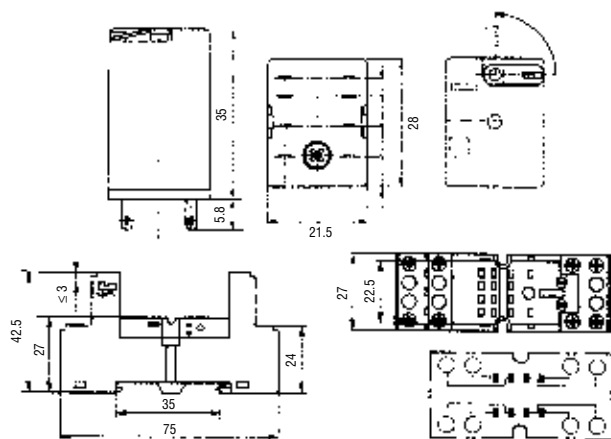
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Coil Data

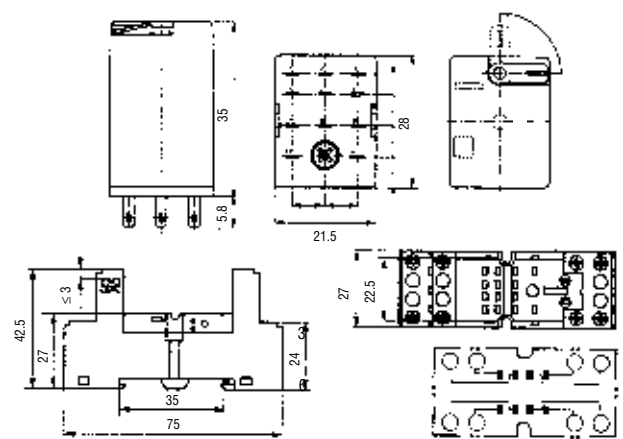
Rated Voltage AC 50/60Hz	Coil resistance $\pm 10\%$ at 20°C Ω
12VAC	46
24VAC	184
48VAC	735
110VAC	4550
230VAC	14400
12VDC	160
24VDC	650
48VDC	2600
110VDC	1100

Outline dimensions (mm)

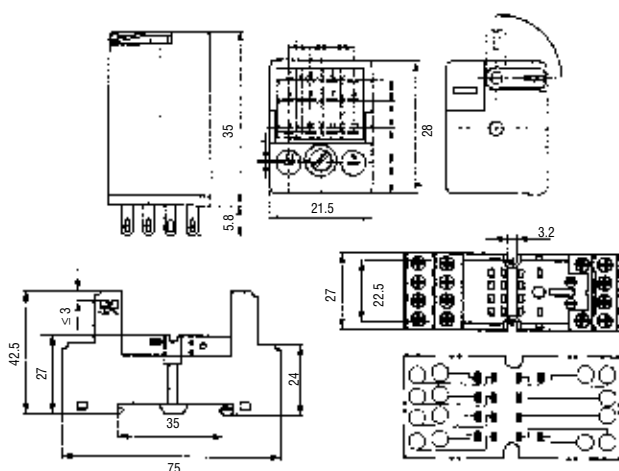
HY21 plug-in version, screw terminals socket **SRN2-S**



HY31 plug-in version, screw terminals socket **SRN3-S**



HY41 plug-in version, screw terminals socket **SRN4-S**



Plug In Power Relay RS



General purpose 10 amp Plug In Power Relay, available in 2PCO and 3PCO

- Arc barriers prevent flashover between contacts
- Visible latch facility for commissioning/test
- Mechanical flag indicator showing armature operation
- ROHS Compliant
- cURus approval



Options and ordering codes

RS	2	PN	230VAC
General purpose power relay			For coil voltages see table
2 pole changeover	2	N	Flag and LED
3 pole changeover	3	P	Manual operator/latch

Specification

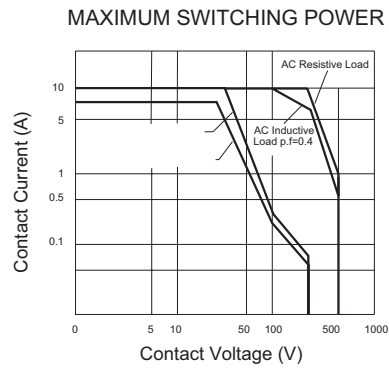
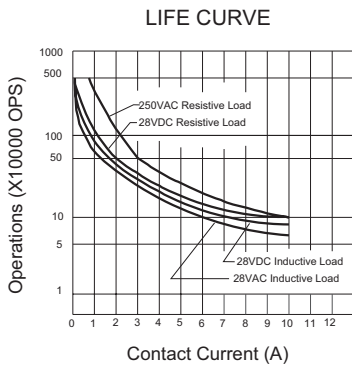
Rated load	10A @ 250V AC/30V DC
Rated current ¹	10A
Maximum switching voltage	250V AC/30 DC
Contact resistance (initial)	100mΩ
Operate time	25 m sec max
Release time	25 m sec max
Maximum operate frequency	1800 ops/hr at maximum rated load
Dielectric strength (Coil – Contact) (Between adjacent Contacts) (Contact Gap)	2500V AC 50/60 Hz for 1 minute 2000V AC 50/60 Hz for 1 minute 1000V AC 50/60 Hz for 1 minute
Ambient operating temperatures ¹	-40 to + 55 °C
Mechanical service life	10 million ops minimum
Electrical service life ¹	100,000 ops at rated load
Protection degree	IP10
Contact material	AgSnO ₂
Voltage range	80 - 120%
Power consumption	2.5 VA AC 1.35 watts DC

¹To IEC 255-1-00, IEC 255-0-20 ²IEC 255-7 (Cat.3) ³IEC 255-7 (Cat.2)

Coil Data

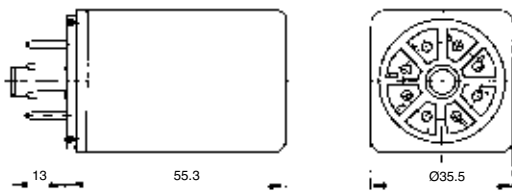
Rated Voltage	AC Coils		DC Coils	
	Coil Resistance (Ω)	Rated Current (mA)	Coil Resistance (Ω)	Rated Current (mA)
12	20	190	110	109
24	88	95	430	56
110	2000	20	9200	12
230	7900	10	–	–

Switching characteristics

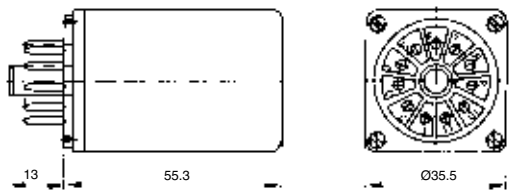


Dimensions (mm)

2 C/O

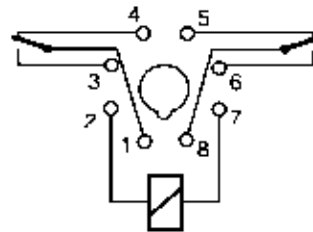


3 C/O

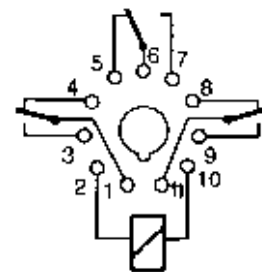


Terminal arrangement

2 C/O



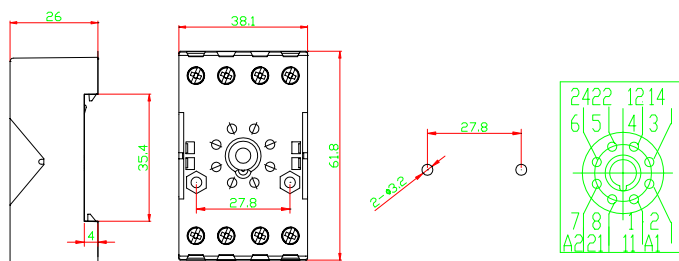
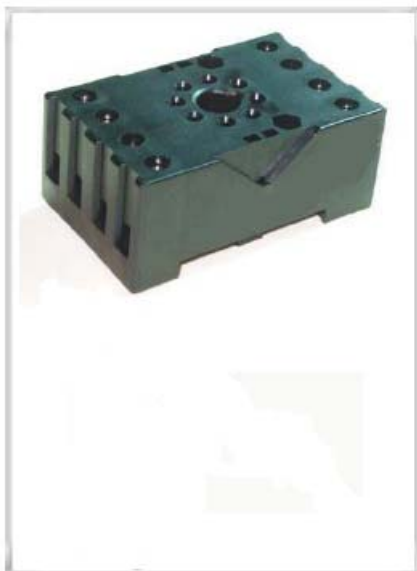
3 C/O



Panel mount or 35mm DIN Rail
(EN50022)

Mounting Dimension

PCB Layout Inter Connection



Characteristics

Ambient temperature	-40~70℃
Rated voltage	300VAC
Rated current	15A (Per pole)
Insulation voltage	>5KV
Protection degree	IP20
Socket material	Self-extinguishing—PA66+GF(V0)
Contacts spring material	QSn6.5-0.1
Hold down spring	No
Modules (on request)	No
Stew Torque	0.6Nm
Wire strip length	7mm

IMO

Socket

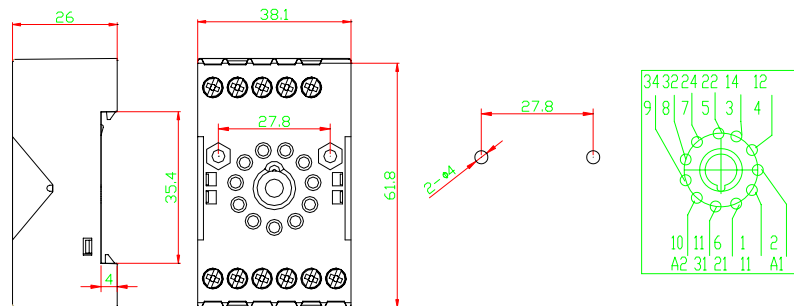
SRR11

Panel mount or 35mm DIN Rail
(EN50022)



Mounting Dimension

PCB Layout Inter Connection



Characteristics

Ambient temperature	-40~70℃
Rated voltage	300VAC
Rated current	15A (Per pole)
Insulation voltage	>5KV
Protection degree	IP20
Socket material	Self-extinguishing-PA66+GF(V0)
Contacts spring material	QSn6.5-0.1
Hold down spring	No
Modules (on request)	No
Stew Torque	0.6Nm
Wire strip length	7mm