



PM22 SERIES

PANEL MOUNT SOLID STATE RELAYS



Features

- Output ratings up to 95 Amps at 600VAC
- Built-in overvoltage protection
- DBC substrate for superior thermal performance
- LED input status indicator
- IP20 touch-safe housing
- AC or DC control
- 4000 VAC optical isolation
- C-UL-US and TUV approved



PRODUCT SELECTION

Control Voltage	25 A	50 A	95 A
90-280 VAC/VDC	PM2260A25V	PM2260A50V	PM2260A95V
4-32 VDC	PM2260D25V	PM2260D50V	PM2260D95V



SPECIFICATIONS

Output ⁽¹⁾

Description	25 A	50 A	95 A
Operating Voltage (47-440Hz) [Vrms]	48-600	48-600	48-600
Transient Overvoltage [Vpk] ³	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rs}]	1	1	1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec]	500	500	500
Load Current, General Use UL508/LC A IEC 62314 @ 40°C [A _{rs}] ⁴	25	50	95
Load Current, Motor Starting UL508 FLA/LC B IEC 62314 @ 40°C [A _{rs}] ⁴	8.5/4.8	14/7.6	26/14
Minimum Load Current [A _{rs}]	100	100	150
Maximum 1 Cycle Surge Current (50/60Hz) [A _{pk}]	286/300	716/750	1290/1350
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.35	1.35	1.30
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	0.49	0.27	0.2
Maximum 1/2 Cycle I ² t for Fusing (50/60Hz) [A ² sec]	409/375	2563/2343	8320/7593
Minimum Heat Sink for Rated Current @ 40°C [°C/W]	2	0.7	0.25
Minimum Power Factor (at Maximum Load) ⁵	0.5	0.5	0.5
Motor Rating UL 508/IEC62314 [HP (kW)]: 120 VAC	0.5 (0.37)	1 (0.74)	2 (1.5)
Motor Rating UL 508/IEC62314 [HP (kW)]: 240 VAC	1.5 (1.1)	3 (2.2)	5 (3.73)
Motor Rating UL 508/IEC62314 [HP (kW)]: 480 VAC	3 (2.24)	5 (3.7)	10 (7.4)

Input ⁽¹⁾

Description	PM2260DxxV	PM2260AxxV
Control Voltage Range	4-32 VDC ⁶	90-280 VAC/VDC ⁷
Maximum Reverse Voltage	-32 VDC	-
Minimum Turn-On Voltage	4 VDC	90 VAC/VDC
Must Turn-Off Voltage	1 VDC	5 VAC/VDC
Minimum Input Current (for on-state)	7 mA	6 mA
Maximum Input Current	15 mA	10 mA
Nominal Input Impedance	Current Regulated	Current Limited
Maximum Turn-On Time [msec]	1/2 Cycle ⁸	20
Maximum Turn-Off Time [msec]	1/2 Cycle	30

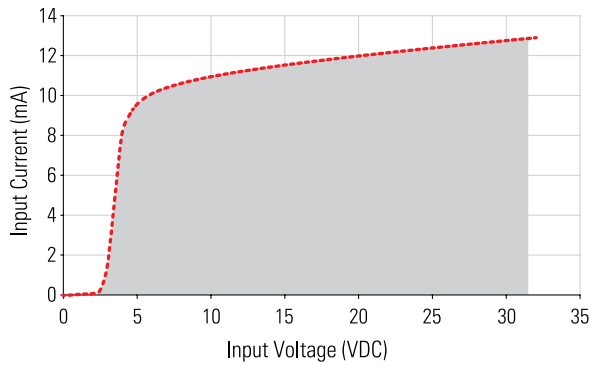
General ⁽¹⁾

Description	Parameters
Dielectric Strength, Input to Output (50/60Hz)	4000 Vrms
Dielectric Strength, Input/Output to Baseplate (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohms
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range ⁹	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 100 °C
Short Circuit Current Rating ¹⁰	100kA
Weight (typical)	2.3 oz (65 g)
Housing Material	UL94 V-0
Baseplate Material	Aluminum
Hardware Finish	Nickel Plating
Input Terminal Screw Torque Range (lb-in/Nm)	5/0.5 ¹¹
Load Terminal Screw Torque Range (lb-in/Nm)	18-20 / 2-2.2
SSR Mounting Screw Torque Range (lb-in/Nm)	20-25/2.2-2.8
Humidity	95% non-condensing
LED Input Status Indicator	Green

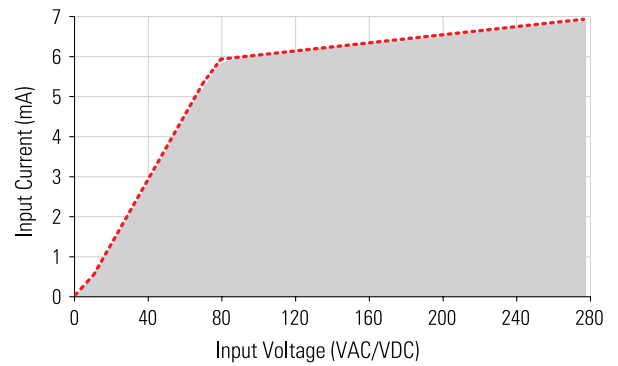


INPUT CURRENT INFORMATION

4-32 VDC Input

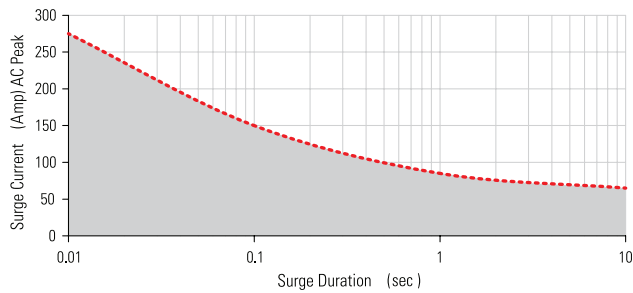


90-280 VAC/VDC Input

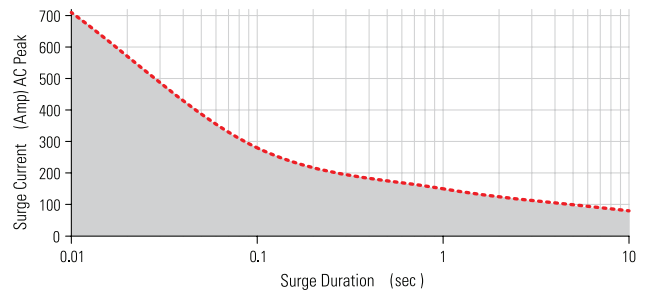


SURGE CURRENT INFORMATION

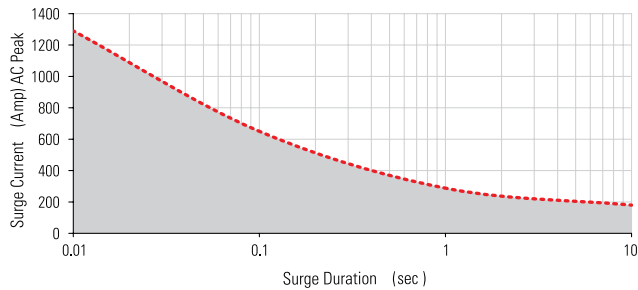
PM2260x25V



PM2260x50V



PM2260x95V

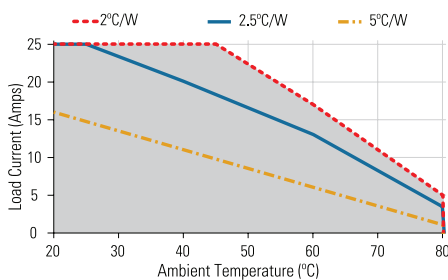


Single Pulse ¹²

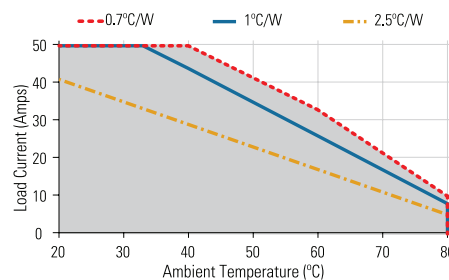


THERMAL DERATE INFORMATION ⁹

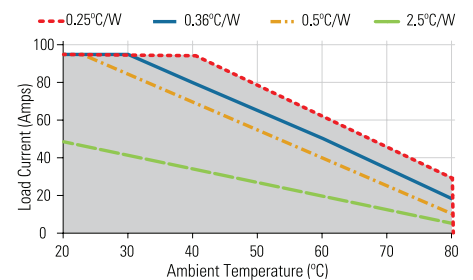
PM22xxx25x



PM2260x50V



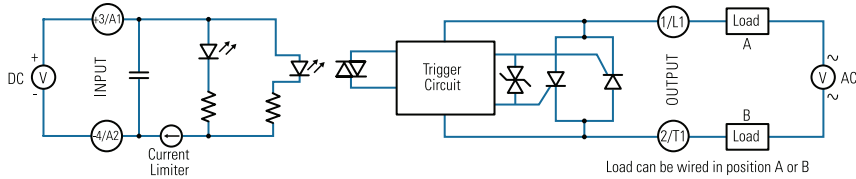
PM2260x95V



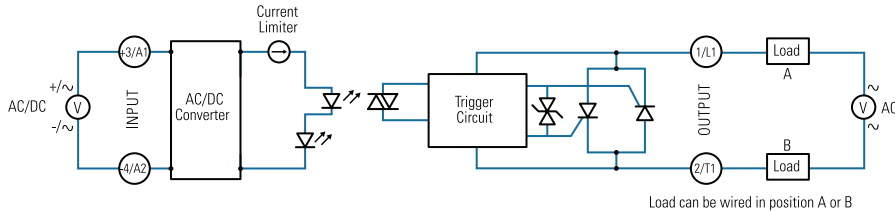


EQUIVALENT CIRCUIT BLOCK DIAGRAMS/WIRING DIAGRAM

DC Control



AD/DC Control

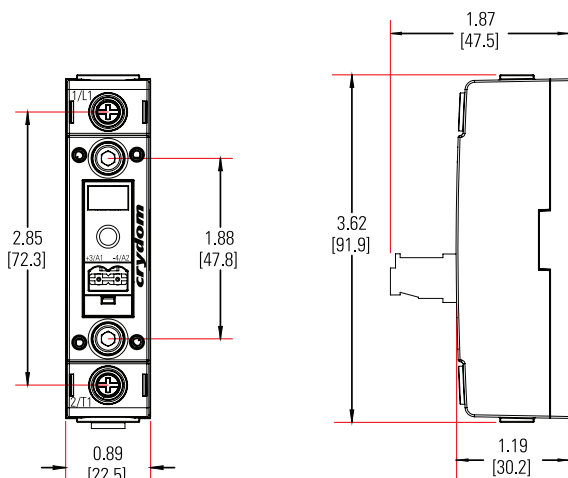


Recommended Wire Sizes			
Terminal Configuration		Wire Size (Solid / Stranded)	Wire Pull-Out Strength (lb) [N]
Output		2 x 20 AWG (0.75 mm²) [minimum]	25 [111]
		2 x 10 AWG (6 mm²)	80 [355]
Input	Screw	2 x 8 AWG (10 mm²) [maximum]	90 [400]
		30 AWG (0.05 mm²) [minimum]	4.5 [20]
		12 AWG (3.3 mm²) [maximum]	30 [133]
	Spring	26 AWG (0.13 mm²) [minimum]	5 [22]
		12 AWG (3.3 mm²) [maximum]	5 [22]

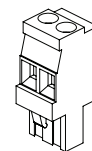


MECHANICAL SPECIFICATIONS

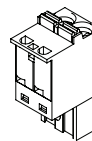
*Tolerances: ± 0.02 in / 0.5 mm All dimensions are in: inches [millimeters]



Input Connector



Screw Terminal



Spring Terminal



ORDERING OPTIONS

Example : PM2260A25VRJH

	PM22	60	A	25	V	R	J	H
Series	PM22							
Operating Voltage		60						
60: 48-600 VAC								
Control Voltage ¹			A					
A: 90-280 VAC/VDC D: 4-32 VDC								
Rated Load Current				25				
25: 25 Amps 50: 50 Amps 95: 95 Amps								
Terminal Layout					V			
V: Contactor Configuration								
Switching Type						R		
Blank: Zero Voltage Turn-On R: Instantaneous Turn-On (Motor Rating Certified)								
Input Connector							J	
Blank: Screw Terminal J: Spring Terminal								
Thermal Pad								H
Blank: Not Included H: Included								

Required for valid part number
 For options only and not required for valid part number

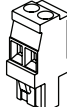
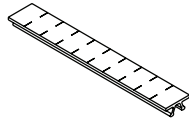
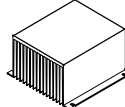
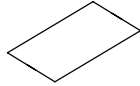


GENERAL NOTES

- ⁽¹⁾ Control voltage 18-52 VAC/VDC is available upon request.
- ⁽²⁾ All parameters at 25°C unless otherwise specified.
- ⁽³⁾ Output will self trigger between 900-1200 Vpk, not suitable for capacitive loads.
- ⁽⁴⁾ Heat sinking required, see derating curves. For load currents greater than 50A use conductors with at least 75°C insulation.
- ⁽⁵⁾ High inductive loads requires nominal control voltage; AC input models only.
- ⁽⁶⁾ Increase minimum voltage by 1 V for operations from -20 to -40°C.
- ⁽⁷⁾ For ambient temperatures above 40°C the maximum control voltage must not exceed 250 VAC/VDC.
- ⁽⁸⁾ Turn-on time for Instantaneous turn-on versions is 0.1 msec.
- ⁽⁹⁾ AC input models operating range is -20 to 60°C.
- ⁽¹⁰⁾ When protected with the appropriate class and rated fuse. For detailed info please contact Sensata Technical Support.
- ⁽¹¹⁾ Input torque to screw terminals Connector.
- ⁽¹²⁾ For single surge pulse Tc=25°C; Tj=125°C. For AC Output SSRs, AC RMS value of surge current equals the peak value divided by $\sqrt{2}$ (1.414).



Recommended Accessories

					
Connectors	ID Marker	Hardware Kit	Heat Sink Part No.	Thermal Resistance [°C/W]	Thermal Pad
CP201 CP202	CNLB CNLN CNL2	HK8	HS259DR HS073 HS072 HS053 HS033 HS023	2.5 0.7 0.7 0.5 0.36 0.25	HSP-7

Connectors Part number: CP201, CP202		Hardware Kit Part number: HK8	
	Pluggable input connectors, 2 position, with screw terminals (CP201) or spring type terminals (CP202). Compatible with Contactor configuration NOVA22 SSRs.		Bag with 2 SSR mounting screws 8-32 x 3/8, Hex Socket Cap, compatible with PM22 Series Panel Mount SSRs. Used to mount the SSR onto any of our compatible heat sinks.
Heat Sink Part number: HS259DR		Thermal Pad Part number: HSP-7	
	DIN Rail mountable heat sink with 2.5°C/W thermal resistance. Heat sink material is aluminum with black anodized finish. Suitable for mounting a single PM22 Series Panel Mount SSRs.		Non-adhesive thermal pad for half-puck package SSRs. Compatible with PM22 Series Panel Mount SSRs.



AGENCY APPROVALS & CERTIFICATIONS

Certification in accordance with:

United States Standard for Industrial Control Equipment - UL 508 and Canadian Standard Association for Industrial Control Equipment – C22.2 No. 14.

TUV Certified in accordance to EN62314

Vibration Resistance:

IEC 60068-2-6: Amplitude Range 10-500 Hz, Displacement 0.75mm

Shock Resistance:

IEC 60068-2-27: Peak Acceleration 50g, Duration 11ms.



Electromagnetic Compatibility				
Generic Standard	Immunity Tests	Test Specification Level		Performance
IEC 61000-6-2 Immunity for Industrial Environments	Electrostatic Discharge IEC 61000-4-2	8kV air discharge		Criterion A
		6kV contact discharge		Criterion A
	Fast transients (burst) IEC 61000-4-4	Output	2kV, 5kHz, 100kHz	Criterion B
		Input	1kV, 5kHz, 100kHz	Criterion B
	Surge IEC 61000-4-5	Output	1kV Line to Earth	Criterion B
			2kV Line to Earth	Criterion B
		AC Input Option	1kV Line to Earth	Criterion A
			2kV Line to Earth	Criterion A



WARNINGS



RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.



HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury.

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