

HSR-3 series

Three-phase contactless relay

- Implementation of large capacity in small, lightweight form
- Bolt attachment method
- Terminal block protection cover structure for safety
- Zero Cross/Random Switching function



Specification

■ DC input (10A/20A/30A)

Model		Low	HSR-3D10LZ□	HSR-3D20LZ□	HSR-3D30LZ□
			HSR-3D10LR□	HSR-3D20LR□	HSR-3D30LR□
		High	HSR-3D10HZ□	HSR-3D20HZ□	HSR-3D30HZ□
			HSR-3D10HR□	HSR-3D20HR□	HSR-3D30HR□
LOAD	Rated Load Voltage	Low	24 - 240 V a.c. 50 / 60 Hz		
		High	24 - 480 V a.c. 50 / 60 Hz		
	Peak Voltage (Non-repetition)	Low	1,200 V		
		High			
	Rated load current		10A	20A	30A
	Surge current 60Hz (8.3 ms No repetition)	Low	170A	260A	420A
		High	170A	250A	370A
	Surge current 50 Hz (10ms No repetition)	Low	160A	250A	400A
		High	160A	240A	350A
	Leakage current		Less than 20 mA		
	Output ON voltage dropping		Less than 1.6 V (R.M.S)		
INPUT	Rated Voltage		5 - 24 V d.c.		
	Operating Voltage Range (ON Voltage)		4 - 32 V d.c.		
	return voltage (OFF Voltage)		Less than 3 V		
	Impedance		Less than 4 kΩ		
	current consumption		Constant current method : Less than 25mA		
Response Time			1/2 Cycle + 1 ms max. (“R” type below 1ms)		
Insulating Resistance			500 V d.c., 100 MΩ (Between the input / output and case)		
Dielectric strength			2,500 V a.c. (For 1 min at 60Hz)		
Rated impulse withstand voltage (Uimp)			2,500 V		
Vibration resistance			10 - 55 Hz, Double amplitude : 1.5 mm, X-Y-Z each axis direction for 2 hours		
Shock resistance			1,000 m/s ² , X·Y·Z each axis 3 times		

Storage Temperature	-30 ~ 90 °C
Ambient Temperature & Humidity	-30 ~ 80 °C (No Condensation), 45 ~ 85 % RH
Pollution level grade	2 level
bolt tightening torque	Input terminal : 0.05 Nm / Output terminal : 0.25 Nm
Usage	Resistive load
Certification	 (EN 60947-4-3)  RoHS2
Weight	Approx 250g

■ DC input (40A/50A/70A)

Model		Low	HSR-3D40LZ□	HSR-3D50LZ□	HSR-3D70LZ□
			HSR-3D40LR□	HSR-3D50LR□	HSR-3D70LR□
		High	HSR-3D40HZ□	HSR-3D50HZ□	HSR-3D70HZ□
			HSR-3D40HR□	HSR-3D50HR□	HSR-3D70HR□
LOAD	Rated Load Voltage	Low	24 - 240 V a.c. 50 / 60 Hz		
		High	24 - 480 V a.c. 50 / 60 Hz		
	Peak Voltage (Non-repetition)	Low	1,200 V		
		High			
	Rated load current		40A	50A	70A
	Surge current 60Hz (8.3ms No repetition)	Low	420A	525A	
		High	370A	525A	
	Surge current 50 Hz (10ms No repetition)	Low	400A	500A	
		High	350A	500A	
	Leakage current		Less than 20 mA		
	Output ON voltage dropping		Less than 1.6 V (R.M.S)		
INPUT	Rated Voltage		5 - 24 V d.c.		
	Operating Voltage Range (ON Voltage)		4 - 32 V d.c.		
	return voltage (OFF Voltage)		Less than 3 V		
	Impedance		Less than 4 kΩ		
	current consumption		Constant current method : Less than 25mA		
Response Time			1/2 Cycle + 1 ms max. (“R” type below 1ms)		
Insulating Resistance			500 V d.c., 100 MΩ (Between the input / output and case)		
Dielectric strength			2,500 V a.c. (For 1min at 60Hz)		
Rated impulse withstand voltage (Uimp)			2,500 V		
Vibration resistance			10 - 55 Hz, Double amplitude : 1.5 mm, X-Y-Z each axis direction for 2 hours		
Shock resistance			1,000 m/s ² , X·Y·Z each axis 3 times		

Storage Temperature	-30 ~ 90 °C	
Ambient Temperature & Humidity	-30 ~ 80 °C (No Condensation), 45 ~ 85 % RH	
Pollution level grade	2 level	
bolt tightening torque	Input terminal : 0.05 Nm / Output terminal : 0.25 Nm	
Usage	Resistive load	
Certification	 (EN 60947-4-3)  <i>RoHS2</i>	
Weight	Approx 250g	Approx 310g

■ AC input (10A/20A/30A)

Model		Low	HSR-3A10LZ□	HSR-3A20LZ□	HSR-3A30LZ□
			HSR-3A10LR□	HSR-3A20LR□	HSR-3A30LR□
		High	HSR-3A10HZ□	HSR-3A20HZ□	HSR-3A30HZ□
			HSR-3A10HR□	HSR-3A20HR□	HSR-3A30HR□
LOAD	Rated Load Voltage	Low	24 - 240 V a.c. 50 / 60 Hz		
		High	24 - 480 V a.c. 50 / 60 Hz		
	Peak Voltage (Non-repetition)	Low	1,200 V		
		High			
	Rated load current		10A	20A	30A
	Surge current 60Hz (8.3ms No repetition)	Low	170A	260A	420A
		High	170A	250A	370A
	Surge current 50 Hz (10ms No repetition)	Low	160A	250A	400A
		High	160A	240A	350A
	Leakage current		Less than 20 mA		
	Output ON voltage dropping		Less than 1.6 V (R.M.S)		
INPUT	Rated Voltage		100 - 240 V a.c. 50/60Hz		
	Operating Voltage Range (ON Voltage)		90 - 264 V a.c. 50/60Hz		
	return voltage (OFF Voltage)		Less than 50 V		
	Impedance		Less than 40 kΩ		
	current consumption		Less than 14mA		
Response Time			1/2 Cycle + 1 ms max. ("R" type below 1ms)		
Insulating Resistance			500 V d.c., 100 MΩ (Between the input / output and case)		
Dielectric strength			2,500 V a.c. (For 1min at 60Hz)		
Rated impulse withstand voltage (Uimp)			2,500 V		
Vibration resistance			10 - 55 Hz, Double amplitude : 1.5 mm, X-Y-Z each axis direction for 2 hours		

Shock resistance	1,000 m/s ² , X·Y·Z each axis 3 times
Storage Temperature	-30 ~ 90 °C
Ambient Temperature & Humidity	-30 ~ 80 °C (No Condensation), 45 ~ 85 % RH
Pollution level grade	2 level
bolt tightening torque	Input terminal : 0.05 Nm / Output terminal : 0.25 Nm
Usage	Resistive load
Certification	 (EN 60947-4-3)  <i>RoHS2</i>
Weight	Approx 250g

■ AC input (40A/50A/70A)

Model		Low	HSR-3A40LZ□	HSR-3A50LZ□	HSR-3A70LZ□
			HSR-3A40LR□	HSR-3A50LR□	HSR-3A70LR□
		High	HSR-3A10HZ□	HSR-3A20HZ□	HSR-3A30HZ□
			HSR-3A10HR□	HSR-3A20HR□	HSR-3A30HR□
LOAD	Rated Load Voltage	Low	24 - 240 V a.c. 50/60 Hz		
		High	24 - 480 V a.c. 50/60 Hz		
	Peak Voltage (Non-repetition)	Low	1,200 V		
		High			
	Rated load current		40A	50A	70A
	urge current 60Hz (8.3ms No repetition)	Low	420A	525A	
		High	370A	525A	
	Surge current 50 Hz (10ms No repetition)	Low	400A	500A	
		High	350A	500A	
	Leakage current		Less than 20 mA		
	Output ON voltage dropping		Less than 1.6 V (R.M.S)		
INPUT	Rated Voltage		100 - 240 V a.c. 50/60Hz		
	Operating Voltage Range (ON Voltage)		90 - 264 V a.c. 50/60Hz		
	return voltage (OFF Voltage)		Less than 50 V		
	Impedance		Less than 40 kΩ		
	current consumption		Less than 14mA		
Response Time			1/2 Cycle + 1 ms max. ("R" type below 1ms)		
Insulating Resistance			500 V d.c., 100 MΩ (Between the input / output and case)		
Dielectric strength			2,500 V a.c. (For 1min at 60Hz)		
ated impulse withstand voltage (Uimp)			2,500 V		
Vibration resistance			10 - 55 Hz, Double amplitude : 1.5 mm, X-Y-Z each axis direction for 2 hours		

Shock resistance	1,000 m/s ² , X·Y·Z each axis 3 times	
Storage Temperature	-30 ~ 90 °C	
Ambient Temperature & Humidity	-30 ~ 80 °C (No Condensation), 45 ~ 85 % RH	
Pollution level grade	2 level	
bolt tightening torque	Input terminal : 0.05 Nm / Output terminal : 0.25 Nm	
Usage	Resistive load	
Certification	 (EN 60947-4-3)  <i>RoHS2</i>	
Weight	Approx 250g	Approx 310g