

# MSR-HD

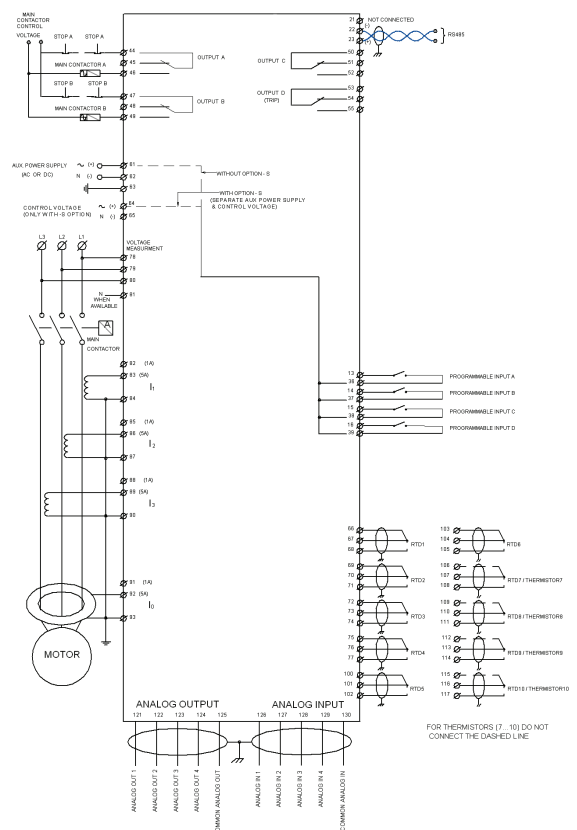
## Motor Protection Relay



### Specifications

- » Standard voltage version: 85 - 250 V
- » Low voltage version: 19 - 60 V
- » Frequency: DC, 45 to 65 Hz.
- » Power consumption: Less than 20 VA
- » Input method : True RMS, sample time 0.5 ms.
- » Ambient temperature : 0°C to +50°C

### Input/Output Indication Scheme



\*For illustration purposes only

Our Motor Protection and Control Relay delivers a thorough motor protection and control solution. This microprocessor-controlled relay is designed specifically for three-phase induction motors. It monitors three-phase currents and voltages and includes 10 RTD/Thermistor temperature inputs, making it ideal for medium voltage motors.

The MSR-HD measures true RMS voltages and currents at a rapid 0.5ms sampling rate, ensuring compatibility with electronic motor drives, such as soft starters.

Direct connection of line to line voltages up to 690 VAC. For higher voltages, up to 25 KV, V/Ts must be used.

The MSR-HD monitors three-phase voltages, three-phase currents, and earth fault currents. It also supports temperature inputs from up to 10 sensors, four analog inputs, and four programmable discrete (optically isolated logic) outputs.



## Features

- » Monitoring 3 temperature inputs, 3-phase current, voltage and energy
- » Power measurement (3-phase voltage measurement)
- » Statistical data last 10 trips -time / date stamp
- » RTD bias for thermal overload
- » Multiple Thermal Overload curves
- » Too Many Starts pre-alarm, configurable to energize dedicated output relay
- » Capture and display of min and max RMS, average of 3-phase current, one voltage, min and max frequency
- » Ground Fault setting during start eliminates nuisance trips
- » MODBUS communication, remote parameter programming, control and supervision.
- » Programmable discrete inputs/output
- » 4 programmable analog outputs

## Protection Package

ANSI/IEEE C37.2	PROTECTIONS	
3	Communication failure / Internal failure	✓
27	Under-voltage	✓
32L	Under Power Level 1/2	✓
37	Under current Level 1/2	✓
46	Current Imbalance Level 1/2	✓
47	Phase sequence/loss	✓
48	Max. Start Time	✓
49R	High Temp. Level 1/2, sensors 1-10	✓
49/51	Thermal Capacity Level 1/2	✓
50	Over Current Level 2 - Short	✓
50G	Ground Fault Level during starting	✓
50G/N	Ground Fault Level 1/2	✓
51L	Load Increase - Alarm	✓
51R	Over Current Level 1 - Jam	✓
55	Lead / Lag PF / Low Power Factor	✓
59	Over-voltage Level 1/2	✓
66	Too Many Starts Level 1	✓

## Applications



» Pumps



» Thrusters

» Mixers



» Crushers

» Conveyors



» Chillers

» Fans



» Compressors

» Power Packs



» Debarkers

» Ball Mills

## Dimensions

- » Vertical : 310 / 134 / 140
- » Horizontal : 140 / 310 / 134
- » Weight : 3.1kg

## Ordering Information

MSR-HD	P	V	1P	2	0	M	S
	Relay Type	Direction	Thermal sensor	Supply / Control Voltage	Options	Comm.	Front Panel
Relay Type							
Specify	Description						
P	Motor Protection Relay						
C	Motor Protection Controller						
Direction							
Specify	Description						
H	Horizontal						
V	Vertical						
Thermal sensor							
Specify	Description						
1P	Ten RTD Platinum 100 ohm/Nickel 120 ohm						
1C	Ten RTD Copper 10 ohm						
TP	Four Thermistors + six RTD (Pt100)						
TC	Four Thermistors + six RTD (Copper)						
Supply / Control Voltage							
Specify	Description						
2	110-230V 50/60Hz or DC (+10% / -15%)						
2S	110 - 230 Vac/dc with separate AUX. Power Supply and Control Voltage						
3	19 - 60 Vdc						
Options							
Specify	Description						
0	No Option						
2	Trip on disconnected RTD						
Z	Bazan						
4	Motor Insulation Tester <sup>(4)</sup>						
Communication							
Specify	Description						
M	RS485 with MODBUS protocol						
P	Rear Profibus connection and front RS232 with MODBUS protocol at fixed baud rate of 9600bps <sup>(1)</sup>						
Notes:	<sup>(1)</sup> Only available in vertical model For P in horizontal model consult with factory						
Front Panel - Standard							

### Disclaimer

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