

Terminal no.	Input signal
19 - 20	Control power supply: DC 110 V
21 - 22	R
23 - 24	S
26 - 27	T
29 - 30	ZCT
35 - 37	GPT
13 - 15	External command 1
14 - 15	External command 2

Terminal no.	Output
51 (+) - 52 (-)	4 - 20 mA output
40 (+) - 39 (-)	Communication output (option)
38 (SG)	

Terminal no.	Output			
C	b	a	Function	Contact output
1	2	3	Selection 1	RY1 selection function
4	5	6	Selection 2	RY2 selection function
7	8	9	Selection 3	RY3 selection function
10	11	12	Selection 4	RY4 selection function
16	-	17	Fixed	CPU operating status
41	42	43	Temperature measurement circuit 1	
44	45	46	Temperature measurement circuit 2	
47	48	49	Temperature measurement circuit 3	

⚠ Safety Notice

Carefully read instruction manual to ensure proper installation, connection, operation, handling and maintenance of the product.

TERASAKI ELECTRIC CO., LTD.

Head Office: 6-13-47 Kamihigashi, Hirano-ku, Osaka 547-0002, Japan
 Circuit Breaker Division: 6-13-47 Kamihigashi, Hirano-ku, Osaka 547-0002, Japan
 TEL +81-6-6791-2763
 FAX +81-6-6791-2732
 int-sales@terasaki.co.jp
 http://www.terasaki.co.jp/

New product:



PRS-1S
Motor Protection Relay



Features of the PRS-1S

- Uses color graphic LCD
- Large screen provides high visibility and ease of use
- High functionality with compact and lightweight design
- Body is designed with maintenance taken into account, and wires and body are easy to install
- Protection functions also comply with ANSI
- Enhanced measurement functions
- Built-in clock function

The PRS-1S is an electronic motor protection relay with high functionality that detects various states when an AC motor starts and while it is operating. Measurement and monitoring functions are installed in addition to the basic 3 elements of the motor protection function (overload protection, open-phase protection, and reverse-phase protection).

1. Overload protection function

The protection function is adapted to the motor starting characteristics and the load characteristics.

2. Open-phase protection function

“Open phase” is a state in which the motor operated in a single-phase state because the power wire connected to the motor became disconnected, the connection area was loose, or there was a disconnection inside the motor. Open-phase states can cause motor winding burnout, and detecting open-phase states can prevent this.

3. Reverse-phase protection function

“Reverse-phase” is a state in which the phase sequence of a motor is connected in reverse and the motor rotates in the reverse direction. This cannot be checked visually in some installation locations, and reverse-phase protection is a function that is essential in order to prevent reverse rotation.

4. Other protection functions

- Maximum starting time detection: Measures the time it takes to return to steady-state operation after the motor starts. If the set time is exceeded, the protection function activates and prevents the motor from the operation at high speeds.
- Unbalanced current protection: Detects unbalanced current, which can cause the motor to heat up and burn out and protects the motor.
- Undercurrent protection: Activates when a current decrease is detected in the electrical circuit. The objective of this protection function is to detect light loads and disconnections.
- Motor winding temperature monitoring: This function monitors the motor winding temperature. The temperature sensor signal provided near the winding area is incorporated into the circuit inside the relay, and monitors the temperature (the temperature measurement range is 0-250°C).

5. Function that displays and saves the activation information and history

- Trip and alarm activation: If trip or alarm occurs, the time of occurrence, cause of activation, activation value, and activation duration are displayed on the screen. The system can save 100 instances each of trip and alarm activation.
- History of phenomena that occurred: The system can save a total of 200 instances of the history of the following phenomena that occurred. These phenomena will be displayed on the screen in chronological order, so it is easy to track detailed information about the phenomena that occurred.
 - Trip activation (time of occurrence / cause of activation)
 - Alarm activation (time of occurrence / cause of activation)
 - Reset operation (time of occurrence / reset operation details)
 - External input (time of occurrence / external input state)

6. Measurement display function

- The display screen displays the following measurement values.
 - Phase current
 - Unbalanced current
 - Motor winding temperature
 - Motor load current
 - Leakage current
 - Motor starting time
 - Motor starting current
 - Motor operating time
 - Motor operating cycles
 - External command input state
 - External output operating state

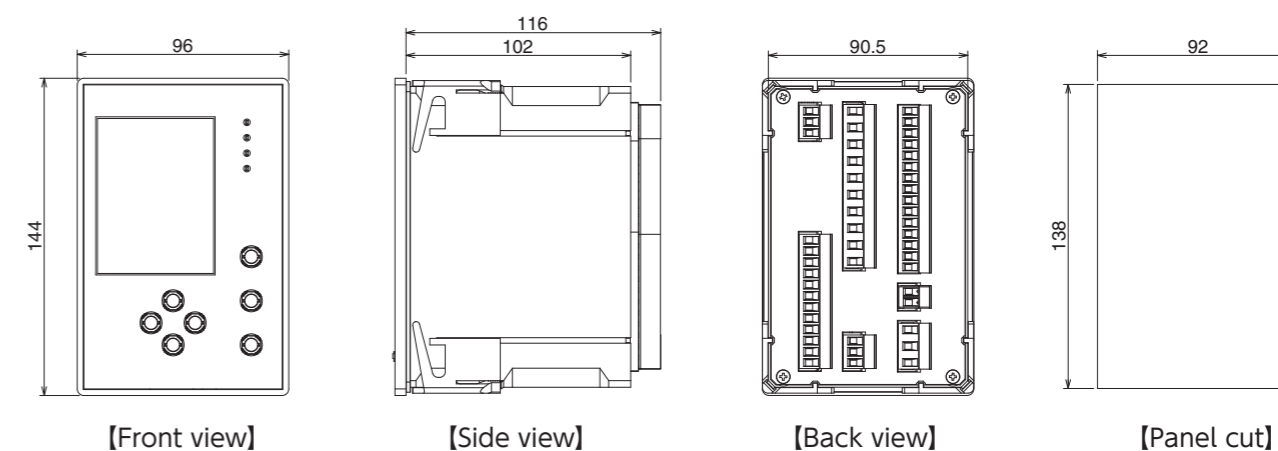
7. Monitoring function

- Communication function: In Modbus RTU mode (RS-485), it is possible to read and write protection setting values and output measurement values and histories.
- Analog output: The maximum phase current value can be converted to 4-20 mA current and output externally.

General specifications

Control voltage	DC110V
VA consumption	5VA
Outline dimensions	Width 96 × height 144 × depth 116 (includes terminal area on back side)
Temperature range	-10°C ~ +55°C
Storage temperature	-25°C ~ +75°C
Humidity	95% or less, and there must not be any condensation
Based standard	IEC60255 : Measuring relays and protection equipment IEC60947-4-1 Part 4: Contactors and Motor-Starters

Outline dimensions



Ordering method

