

## Features

- Two Monitored Safety Outputs.
- Power, Reset and Run Indication.
- Simple 6 way connector to extend RPSMs.
- Can be extended with RPSM up to 20 devices.
- Safety input indication diagnostics.
- Auto/Monitored reset X1-X2 / X1-X3.
- Input/Output fault indication.
- 24Vdc Supply.

## Non programmable Safety Relay

RS Stock No.: 0656643



RS PRO is the own brand of RS. The RS PRO Seal of Approval is your assurance of professional quality, a guarantee that every part is rigorously tested, inspected, and audited against demanding standards. Making RS PRO the Smart Choice for our customers.

## Product Description

*The RPM1 is an expandable safety relay designed to eliminate fault masking without the need for programming. Using the expander module (RPSM) the system can monitor up to 20 Dual channel safety devices ranging from Emergency Stops, Mechanical Interlocks, Non-Contact Safety Switches, Grab-Wires plus more.*

## Electrical Specifications

| Control Unit                  |                                                   |
|-------------------------------|---------------------------------------------------|
| Supply Nominal voltage        | 24Vac/dc (+/- 15%)                                |
| Nominal Power Consumption     | 6VA                                               |
| Safety Inputs                 | 2                                                 |
| Safety Output Contacts        | 2 x N/O                                           |
| Auxiliary Contacts            | 1 x N/C                                           |
| Output Contact Rating (Max)   | 4A/230Vac; 2A/24Vdc(Res.)@Cos=1                   |
| Output Contact Rating (Min)   | 10V/10mA                                          |
| Output Contact Fuse Rating    | AC=5A; DC=2.5A; Quick blow                        |
| Drop Out Time                 | Deactivation by inputs, 13ms                      |
| Internal Fuse / Recovery Time | 1.6Amp Resettable / >2 Seconds                    |
| Internal Switches             | Reset Manual / Automatic – Selectable             |
| Max Conductor Size            | 2 x 1.5mm stranded with sleeves, 2 x 2.5 mm solid |
| Operating Temperature         | 0C to +45C (85% Humidity max)                     |
| Storage Temperature           | -10C to +55C                                      |
| Housing Material              | Polycarbonate Grey                                |
| IP Rating                     | Housing IP30, Terminals IP20                      |
| Mounting / Fixing             | 35mm Symmetric DIN Rail                           |
| Extender Unit                 |                                                   |
| Supply Nominal Voltage        | From Control Unit                                 |
| Nominal Power Consumption     | 3VA                                               |
| Safety Inputs                 | 2                                                 |
| Internal Fuse / Recovery Time | 500mA Resettable / >2 Seconds                     |
| Max Conductor Size            | 2 x 1.5mm Stranded with Sleeves, 2 x 2.5mm Solid  |

|                       |                               |
|-----------------------|-------------------------------|
| Operating Temperature | 0C to +45C (85% Humidity Max) |
| Storage Temperature   | -10C to +55C                  |
| Housing Material      | Polycarbonate Grey            |
| IP Rating             | Housing IP30, Terminals IP20  |
| Mounting / Fixing     | 35mm Symmetric DIN Rail       |

## Protection Category

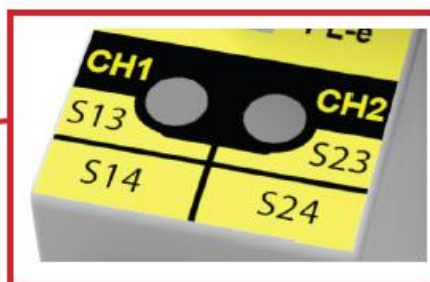
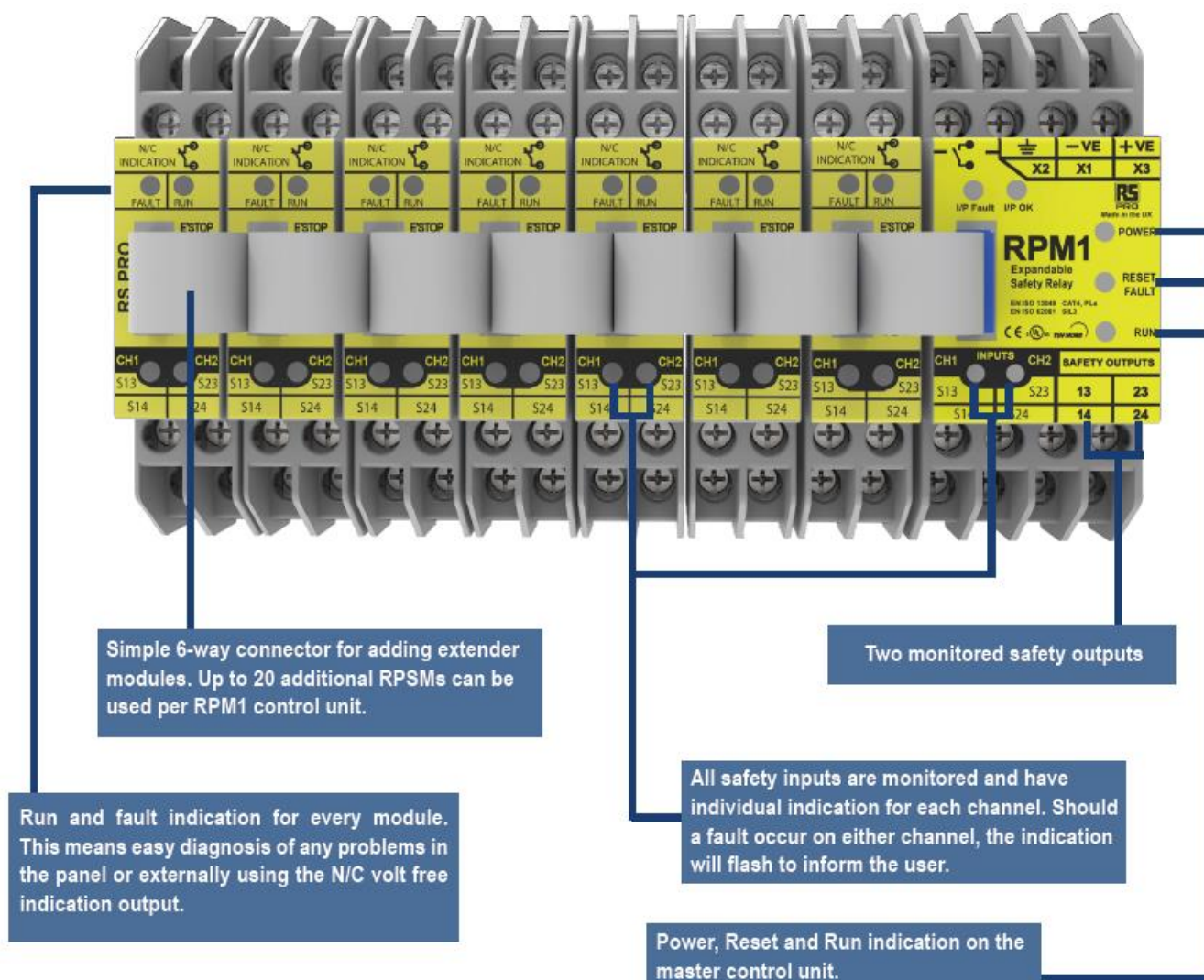
|                                        |                                                                                     |
|----------------------------------------|-------------------------------------------------------------------------------------|
| PL in accordance with EN ISO 13849-1   | PL-e, CAT 4                                                                         |
| SIL CL in accordance with EN IEC 62061 | SIL 3                                                                               |
| PFHd in accordance with EN IEC 62061   | $6.0 \times 10^{-09}$                                                               |
| PFH                                    | $6.52 \times 10^{-09}$                                                              |
| B10d                                   | $2 \times 10^6$                                                                     |
| MTTFd                                  | >100 years (Based on usage rate of 360 days/year, 24 hours/day, 10 operations/hour) |
| TM (mission time)                      | 20 years                                                                            |
| DC                                     | 99%                                                                                 |
| SFF                                    | 99.50%                                                                              |

## Approvals

|                |                                                                                                                              |
|----------------|------------------------------------------------------------------------------------------------------------------------------|
| Declarations   |                                                                                                                              |
| CE             | Complies with all relevant sections of the CE marking directive                                                              |
| UKCA           | Complies with all relevant sections of the UKCA marking directive                                                            |
| TUV            | CAT 4 SIL 3 PLe                                                                                                              |
| Standards Met  |                                                                                                                              |
| EN ISO 13849-1 | Safety of Machinery – Safety related parts of control systems                                                                |
| EN ISO 62061   | Safety of Machinery – Functional safety of safety related electrical, electronic and programmable electronic control systems |
| EN 60204       | Safety of Machinery – Electrical equipment for machines                                                                      |
| EN 60947-5-1   | Low voltage switchgear and control gear                                                                                      |
| EN 14119       | Interlocking devices associated with guards                                                                                  |
| EN 60947-5-3   | Safety of Machinery – Specification for low voltage switchgear and control gear                                              |

## Similar Products

| Stock No. | Brand  | Product Name | Attribute 1      | Attribute 2 | Attribute 3    |
|-----------|--------|--------------|------------------|-------------|----------------|
| 405.001   | RS PRO | RPM1         | 24VAC/DC         | 2NO+1NC     | LED Indication |
| 405.002   | RS PRO | RPSM         | Supply from RPM1 | 2NO         | LED Indication |



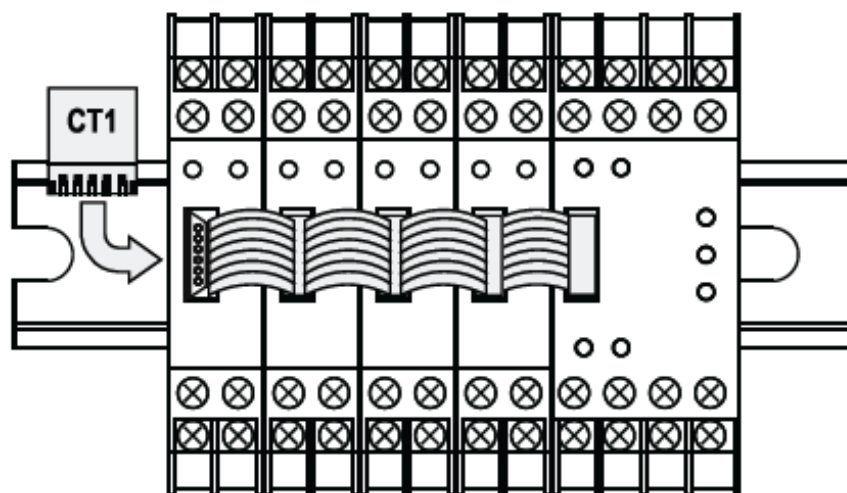
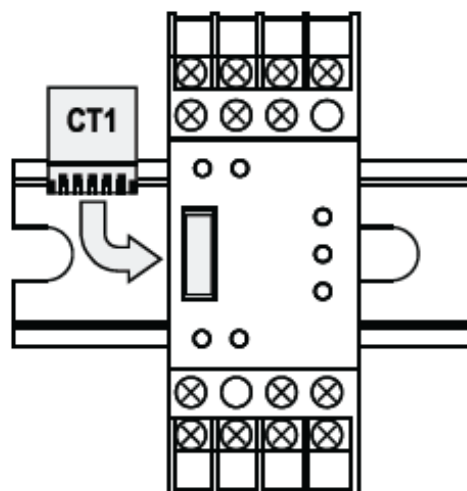
New and improved safety input indication diagnostics. When a channel is faulty, it will now indicate which one by flashing.

Assemble the required number of modules on the DIN-Rail, starting with the RPM1 and clipping the RPSM's to the left of the RPM1.

The RPSM requires 2 x inputs to operate. The maximum number of modules that can be added is 20.

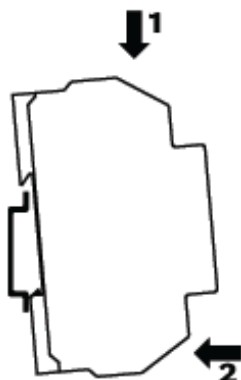
The 'Control Bus' straps on each extender unit connect to the adjacent (right hand side) module as shown.

The 'Control Bus' terminator, CT1 (supplied with the RPM1), must be plugged into the last extender module in the system.



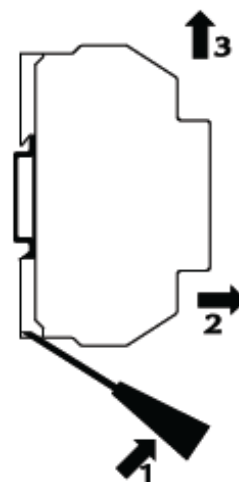
The control modules are designed to be mounted in an IP55 (minimum) control cabinet.

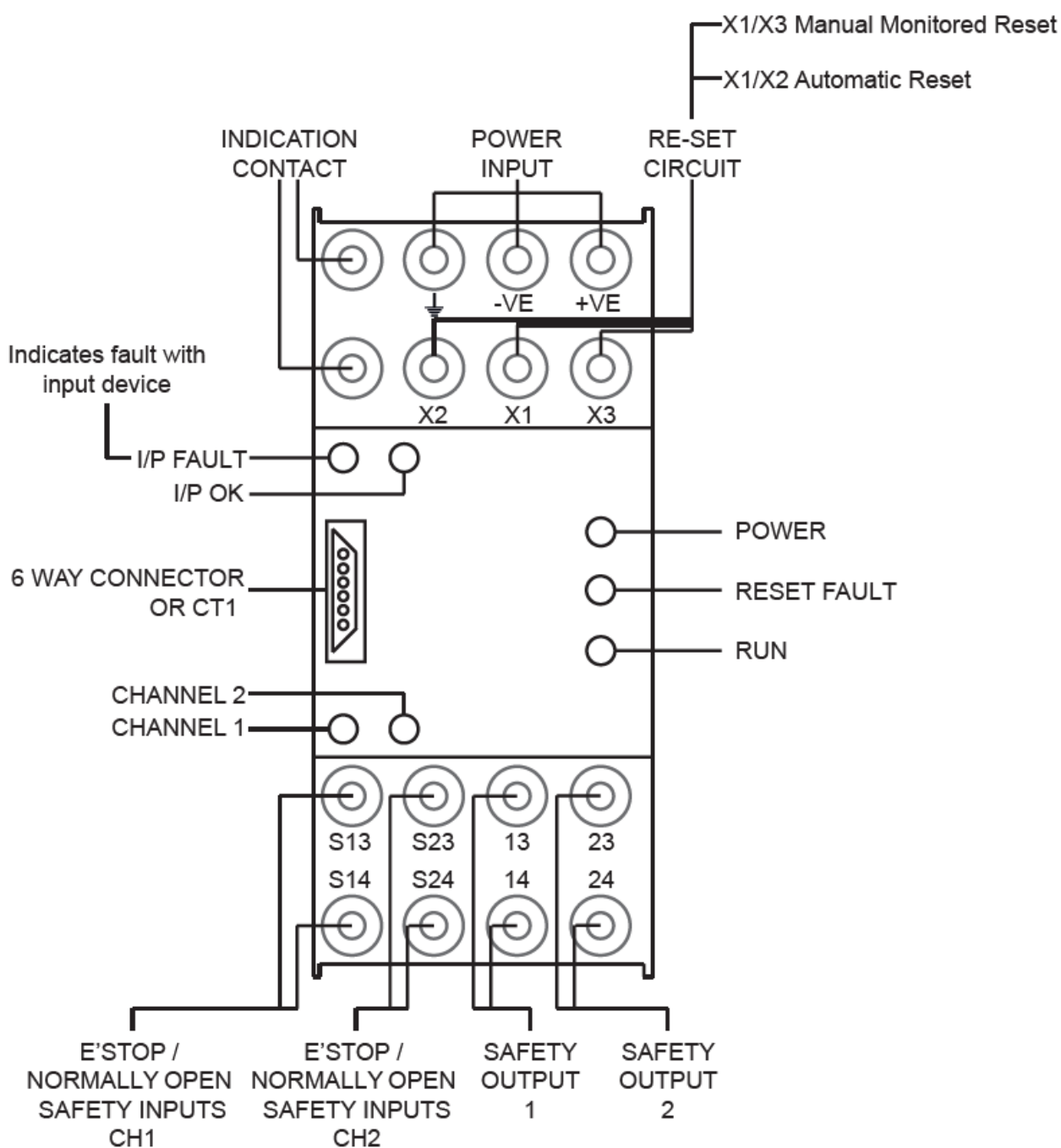
The modules clip on too standard 35 mm symmetric (top hat) DIN-Rail



To remove the modules, gently lever out the DIN clip with a small screwdriver as shown (1).

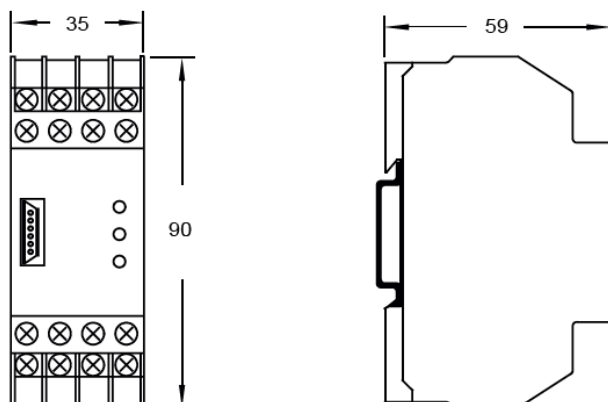
Tilt the unit in the direction (2) and slip the unit off the DIN Rail (3)



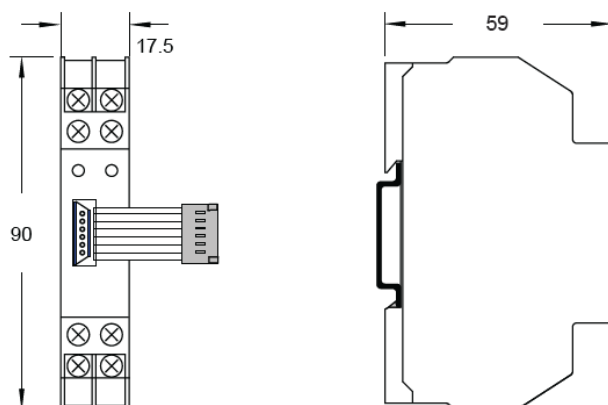


## Dimensions

RPM1 Master Control Unit



RPSM Extender Module



\*ALL DIMENSIONS IN MM

## Maintenance

It is recommended to check the safe operation of the switches and look for signs of damage or excessive wear on a weekly basis. Damaged units should be replaced or returned to the manufacturer for repair where practical.

## Notes

In the interest of product development specifications are subject to change without notice.

It is the responsibility of the user to ensure compliance with any acts or by-laws in place.

All information regarding equipment is believed to be accurate at the time of printing. Responsibility cannot be accepted for errors or omissions.

All dimensions are approximate.