

# Crompton Protector Trip Relays

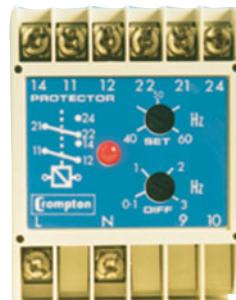
- Phase Loss, Reversal or Sequence
- Under and Over Current or Voltage Protection
- Load Detection
- Monitoring of Systems

The Crompton Protectors provide continuous surveillance of the monitored circuit. When the current moves outside the set point limit, the relay operates. An illuminated LED indicates when the relay is energized. For 3 phase systems, the sequence of connection is not important.

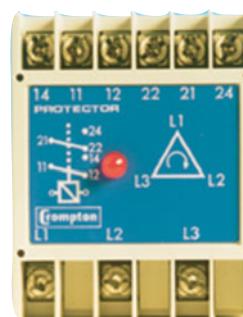
Standard overcurrent relays will energize on trip when the nominal input current plus the user adjustable "over nominal value" is exceeded, after the preset additional delay period if set. The relay will automatically reset to de-energize when the input current is lowered past the setpoint minus the hysteresis (differential) value.

Standard underrcurrent relays will de-energize on trip when the input current is below the nominal value minus the user adjustable "under nominal value" after the preset additional delay period if set. The relay will automatically reset to energize when the input current is raised past the setpoint plus the hysteresis value.

On request, any product can be manufactured with the energize/de-energize functions reversed.



▲ 252-PHU



▲ 252-PVR



| ORDERING INFORMATION   |              |   |                        |                           |
|--|--------------|---|------------------------|---------------------------|
| System   | Input        | Aux. Power  | Protection             | Catalog Number            |
| <b>AC Current (Adjustable time delay 0-10 sec., fixed hysteresis 1%)</b> |              |   |                        |                           |
| Single Phase   | 5A           | 120V  | Under current 40-120%  | 252-PAUU-LSBX-C6-DG-D1-EB |
| Single Phase   | 5A           | 120V  | Over current 40-120%   | 252-PAOU-LSBX-C6-DG-D1-EA |
| Single Phase   | 5A           | 120V  | Under & over current   | 253-PADU-LSBX-C6-DG-D1-EC |
| 3 Phase 3 or 4 Wire  | 5A           | 120V  | Under current          | 253-PAVU-LSBX-C6-DG-D1-EB |
| 3 Phase 3 or 4 Wire  | 5A           | 120V  | Over current           | 253-PAPU-LSBX-C6-DG-D1-EA |
| System   | Protection   |   | Catalog Number         |                           |
| <b>AC Voltage (Adjustable hysteresis 1-15%)</b>                          |              |   |                        |                           |
| Single Phase L-N   |              | Under Voltage 75-100%                             | 252-PVUU-PQBX-C6-EB    |                           |
|  |              | Over Voltage 100-125%                             | 252-PVOU-PQBX-C6-EA    |                           |
|  |              | Over and Under Voltage                            | 253-PVBU-PQBX-C6-EC    |                           |
| 3 Phase, 3 Wire L-L  |              | Under Voltage 75-100%                             | 252-PVKU-PQBX-C6-EB    |                           |
|  |              | Over Voltage 100-12%                              | 252-PVAU-PQBX-C6-EA    |                           |
|  |              | Over and Under Voltage                            | 253-PVMU-PQBX-C6-EC    |                           |
| 3 Phase, 4 Wire L-N  |              | Under Voltage 75-100%                             | 252-PVUU-PQBX-C6-EB    |                           |
|  |              | Over Voltage 100-12%                              | 252-PVPU-PQBX-C6-EA    |                           |
|  |              | Over and Under Voltage                            | 253-PVEU-PQBX-C6-EC    |                           |
| <b>AC Voltage (Adjustable time delay 0-10 sec., fixed hysteresis 1%)</b> |              |   |                        |                           |
| Single Phase L-N   |              | Under Voltage 75-100%                             | 252-PVZU-PQBX-C6-EB-T1 |                           |
| Single Phase L-N   |              | Over Voltage 100-12%                              | 252-PVHU-PQBX-C6-EA-T1 |                           |
| 3 Phase, 3 Wire L-L  |              | Under Voltage 75-100%                             | 252-PVJU-PQBX-C6-EB-T1 |                           |
| 3 Phase, 3 Wire L-L  |              | Over Voltage 100-12%                              | 252-PVCU-PQBX-C6-EA-T1 |                           |
| 3 Phase, 4 Wire L-N  |              | Under Voltage 75-100%                             | 252-PVXU-PQBX-C6-EB-T1 |                           |
| 3 Phase, 4 Wire L-N  |              | Over Voltage 100-12%                              | 252-PVSU-PQBX-C6-EA-T1 |                           |
| System   | Input        | Protection  | Catalog Number         |                           |
| <b>Frequency (Adjustable hysteresis 0.1-3.0Hz)</b>                       |              |   |                        |                           |
| Single Phase   | 120 VAC      | Under Frequency 55-65 Hz                          | 252-PHUU-PQBX-C6-EB    |                           |
| Single Phase   | 120 VAC      | Over Frequency 55-65 Hz                           | 252-PHOU-PQBX-C6-EA    |                           |
| Single Phase   | 120 VAC      | Under & Over (2 output relays)                    | 253-PHDU-PQBX-C6-EC    |                           |
| <b>Combined Under/Over Voltage and Under/Over Frequency</b>              |              |   |                        |                           |
| Single Phase   | 120V / 60 Hz | Over & Under Voltage                              | 256-PHUV-PQBX-C6       |                           |
|  |              | Over & Under Frequency (50-70 Hz)                 |                        |                           |
|  |              | (4 Independent Double Pole<br>change over relays) |                        |                           |

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## ORDERING INFORMATION

| System                                    | Input           | Protection                           | Catalog Number         |
|---|-----------------|--------------------------------------|------------------------|
| <b>Phase Sequence &amp; Phase Failure</b> |                 |                                      |                        |
| 3 Phase 3 or 4 Wire                       | 120V L-L 60 Hz  | Phase Sequence, Under Voltage        | 252-PVRU-PQBX-C6       |
| <b>Phase Balance</b>                      |                 |                                      |                        |
| 3 Phase 3 or 4 Wire                       | 120V L-L 60 Hz  | Phase Loss & Unbalance               | 252-PSFU-PQBX-C6       |
| 3 Phase 3 or 4 Wire                       | 480V L-L 60 Hz  | Phase Loss & Unbalance               | 252-PSFU-SEBX-C6       |
| 3 Phase 3 or 4 Wire                       | 120V L-L 60 Hz  | Phase Loss, Unbalance, Under Voltage | 252-PSGU-PQBX-C6-T1-1A |
| 3 Phase 3 or 4 Wire                       | 480V L-L 60 Hz  | Phase Loss, Unbalance, Under Voltage | 252-PSGU-SEBX-C6-T1-1A |
| <b>Reverse Power</b>                      |                 |                                      |                        |
| 1 ph or 3 ph, 4w                          | 5A, 120V, 60 Hz | Reverse Power 2-20%                  | 256-PASU-LSBX-PQ-C6-EA |
| 3 Phase, 3 Wire                           | 5A, 120V, 60 Hz | Reverse Power 2-20%                  | 256-PATU-LSBX-PQ-C6-EA |
| 1 ph or 3 ph, 4w, Push                    | 5A, 120V, 60 Hz | Reverse Power 2-20%                  | 256-PAQU-LSBX-PQ-C6-EA |
| 3 ph 3w Push                              | 5A, 120V, 60 Hz | Reverse Power 2-20%                  | 256-PARU-LSBX-PQ-C6-EA |
| System                                    | Input           | Protection                           | BUS                    |
| <b>Synchro-Check (Paralleling)</b>        |                 |                                      |                        |
| 1ph or 3ph, 3w or 4w                      | 120V/60 Hz      | Phase Angle & Voltage                | Live BUS               |
| 1ph or 3ph, 3w or 4w                      | 120V/60 Hz      | Phase Angle & Voltage                | Dead BUS               |
| System                                    | Input           | Protection                           | Catalog Number         |
| <b>DC Voltage Relay</b>                   |                 |                                      |                        |
| DC Relay                                  | 18-20V*         | Under Voltage External Time Delay    | 252-PDUU-NABX-T1-EB    |
| DC Relay                                  | 18-20V*         | Under Voltage Differential 1-15%     | 252-PDEU-NABX-EB       |
| DC Relay                                  | 24V             | Over & Under Voltage (2 relays)      | 253-PDCU-BDBX-T1-EC-BD |
| System                                    | Input           | Protection                           | Aux Power              |
| <b>DC Millivolts/Thermocouple</b>         |                 |                                      |                        |
| DC Millivolt                              | 50 mV           | High Trip                            | 120V                   |
| DC Millivolt                              | 50 mV           | Low Trip                             | 120V                   |
| DC Millivolt                              | 100 mV          | High Trip                            | 120V                   |
| DC Millivolt                              | 100 mV          | Low Trip                             | 120V                   |
| Thermocouple**                            | J,K,T,S,T       | High Trip                            | 120V                   |
| Thermocouple**                            | J,K,T,S,T       | Low Trip                             | 120V                   |
| <b>DC Transducer Trip</b>                 |                 |                                      |                        |
| Transducer                                | 1 mADC          | Low Trip 0-80%                       | 120V                   |
| Transducer                                | 1 mADC          | Hip Trip 40-120%                     | 120V                   |
| Transducer                                | 1 mADC          | Low/High, 2 relays                   | 120V                   |
| Transducer                                | 4-20 mADC       | Low Trip 0-80%                       | 120V                   |
| Transducer                                | 4-20 mADC       | Hip Trip 40-120%                     | 120V                   |
| Transducer                                | 4-20 mADC       | Low/High, 2 relays                   | 120V                   |
| Transducer                                | 10 VDC          | Low Trip 0-80%                       | 120V                   |
| Transducer                                | 10 VDC          | Hip Trip 40-120%                     | 120V                   |
| Transducer                                | 10 VDC          | Low/High, 2 relays                   | 120V                   |
| System                                    | Protection      | DC Aux. Power                        | Catalog Number         |
| <b>Speed Sensing</b>                      |                 |                                      |                        |
| 5V to 75V peak to peak                    | 3 Trip Points   | 12 VDC                               | 253-PH3U-BGBX-FS-V2    |
|   | 3 Trip Points   | 24 VDC                               | 253-PH3U-BGBX-FS-V4    |

\* 20-30V also available

\*\* Specify TC Type and Temperature Range

## SPECIFICATIONS

|                 |  |
|-----------------|--|
| Relay Contacts: | DPDT, 5A@240VAC/24VDC (resistive)  |
| Temperature:    | 0-60°C operating (0-40°C for UL)   |
| Enclosure:      | Flame retardant polycarbonate/ABS, IP50  |
| Dimensions:     | 252: 2.2" x 2.8" x 4.4" (55 x 70 x 112 mm)<br>253: 2.9" x 2.8" x 4.4" (75 x 70 x 112 mm) |