



Control & Protection Module Module CPM1

Since their inception in 1987, Bramco's range of Control and Protection Modules (CPM) has proved to be highly reliable and effective in use, evident in the large numbers of units currently in operation.

The advantages of the range extend to the considerable cost benefits in initial purchase price over equivalent individual relays on the market. Large savings in space and cost of installation are also of an advantage.

The Bramco Control & Protection Module is a plug in system of control and protection, tailor made to each customer's needs. The system offers complete control and protection for mining applications.

The Bramco CPM is a module of control and protection relays, packaged and connected to suit individual circuit requirements. The module can contain one or more of each of the relays available.

Each module is complete with its own power supply and has three final output trip relays for connection to external control circuits. The individual relays may be wired into any final output trip relay as required.

The module is small and compact in size, the width and depth are a constant size with the height the variable dimension depending on internal function requirements.

The module is approved for use in hazardous atmospheres for such functions as earth leakage, earth continuity and earth fault lockout plus others requiring approval. These may be mixed under the approval with other functions which do not require approval.



CPM1 Features

- Earth leakage protection
- Earth continuity/pilot or remote control
- Earth leakage lockout
- Loss of vacuum protection
- Frozen contactor protection
- Overload protection
- Overcurrent protection
- Short circuit protection
- Latch functions
- Heavy duty switching outputs
- Power supplies
- All functions plug in and are replaceable
- Plug in module for ease of replacement
- Cost effective rugged and very reliable
- Approved and certified for use in hazardous areas of a coal mine





Control & Protection Module Module CPM1

Specifications

Earth Leakage

50 to 500mA adjustable
50 to 500mSec adjustable

Earth Continuity

45 Ohms max

Remote/Pilot Control

0 - 45 Ohm pickup
145 Ohm drop out
Resistor value 100 Ohm

Earth Fault Lockout

0-10,000 Ohms fixed passive barrier

Frozen Contactor/Loss of Vacuum

24Volt plus fixed

Megger Test Control

Range 415 to 3300 Volt

Overload

15 to 450Amps in 3 ranges
Single curve with Time Extension

Short Circuit

60 to 4500Amps
7 to 12mSecs @ 300% setting

Power Supply

110Volt AC 40/50 and 50/60Hz
240Volt AC 40/50 and 50/60Hz

Max Current

240Volt AC - 75mA
110Volt AC - 164mA

Output Current Rating (Standard)

DR1 1xN/O 5Amp @ 240Volt AC
DR2 1xC/O 5Amp @ 240Volt AC
DR3 1xC/O 5Amp @ 240Volt AC

Fault Rating CTÖs

60KA - 1 second
20KA - 3 seconds
11KA - 11 seconds

Material

Powder coated steel construction

Module Size - 6 Card Module

- 240 x 115 x 160 deep
- In base 300 x 165 x 160 deep
- Remote screen 96 x 96 x 100 deep 70mm behind panel
- Cut out 92 x 92 for fascia mount

Accessories

- **Module Test Unit** to test each function and permit programming changes.
- **Pilot Protection Unit (PPU)** guarding against spikes on the pilot wire.

Approvals/Conformances

NSW Mines:
MDA EXib 1842
MDA EXib R11242

QLD Mines:
QMD 87 6586XU

Compliances:
AS 2081; 12340 1988
AS 2380.7-1987

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