delmatic metro twelve twelve module

The **twelve twelve** module provides flexible addressable control of single & three-phase lighting and power circuits.

The module accepts up to twelve incoming circuits and is equipped with twelve addressed relays providing individual switching and optional dimming of up to twelve 20A outputs. Each output may control lighting or power and any relay may be configured to operate as an emergency test output.

The **twelve twelve** module incorporates distributed intelligence, non-volatile memory (which stores operational parameters) and contains mechanically-latched relays which remain in their last state in the event of control failure: fascia override switches enable manual on/off override of each relay output.

The module comprises a fully-assembled unit: the robust enclosure contains a mother board with terminals for live, neutral & earth cables, bus & local switch connections, and accepting a plug-in intelligent Lon capsule (for seamless interoperability with other building services) and optional dimming capsule.

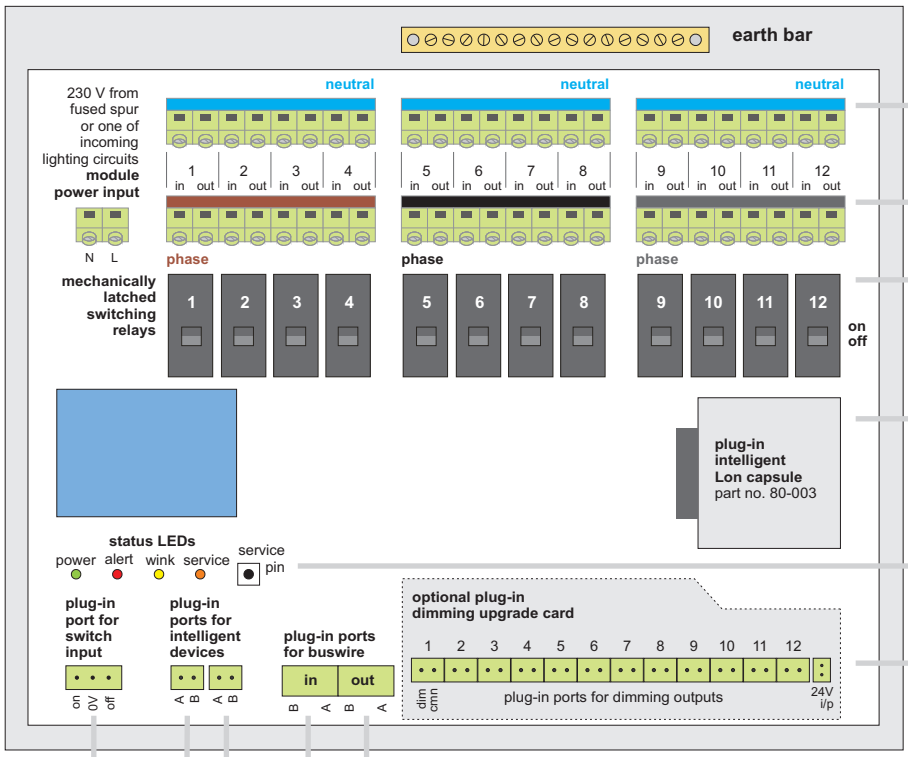
metro twelve twelve - switching

product ref: **202A1**

Provides twelve 20A switched outputs and contains port for dimming upgrade card.

- **optional analogue upgrade card** product ref: **80-007**
  provides 12 analogue 1-10V outputs each controlling up to 20 luminaires
- **optional digital upgrade card** product ref: **80-006**
  provides 12 DSI outputs each controlling up to 20 luminaires
- **optional phase dimming pod** product ref: **91024**
  provides phase dimming of 750W lighting load

module features



robust, painted, galvanised steel **enclosure** with **keyhole fixing** for ease of mounting and quick-lock lid

mains termination zone for connection of incoming circuit Live & Neutral cables, and Neutral & Switched Live outputs to luminaires

twelve 20A mechanically-latched relays with on/off status indication and manual override - in the event of electronics failure relays maintain their last state and may be manually operated on and off from **override switches** accessible through the module lid

plug-in intelligent Lon capsule (80-003) provides distributed intelligence, stores module operational parameters and enables seamless integration with other Lon devices

diagnostic/status LEDs and service pin
Power LED indicates 240V present
Alert LED indicates fault condition
Wink LED verifies comms - normally unlit
Service LED flashes in fault mode
Service Pin uploads module address

optional plug-in dimming card provides twelve analogue (type 80-007) or digital (type 80-006) dimming outputs: contains terminals for connection of two core output to luminaire dimming ballasts

bus terminals - plug-in terminals for two core Lon bus (polarity insensitive) (plug ref. 91041)

intelligent device input for connection of two core cable to devices including switches and sensors (plug ref. 91042)

switch input terminal for three core cable (on, off, common) from momentary-action switch (plug ref. 91043)

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delmatic metro twelve twelve module

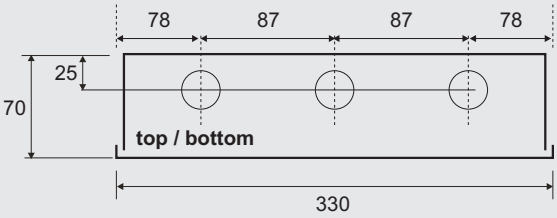
mounting, installation and dimensions

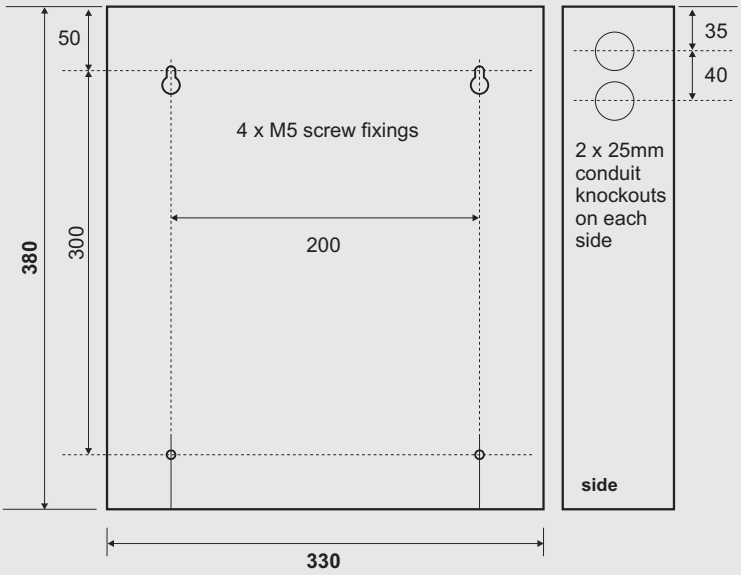
The module should be installed in an accessible location, ideally at a height of 1.5m from floor level.

The module is mounted using four M5 screw fixings: the top two holes use keyhole fixings for ease of installation. When mounting adjacent boxes leave 6mm fixing clearance.

All dimensions in millimetres.

Top/bottom sides contain 3 x 25mm conduit knockouts.
Left/right sides contain 2 x 25mm conduit knockouts.





technical details

mains input
twelve 220-240V~50/60 Hz x 20 Amp single / three phase circuits - terminals accept 2 x 4 sq.mm cables

module power
module electronics powered from separate terminals: power may be taken from one of the incoming circuits

mains outputs
twelve individually addressed switched outputs via mechanically latched relay with status indication & manual override: loading per circuit 20A. terminals accept 2 x 4 sq.mm cables

dimming outputs

with upgrade card 80-007	twelve **0-10V** dimming outputs linked to switching outputs - up to twenty analogue ballasts per output. plug-in screw-terminal ports accept max 1.5 sq.mm cable
with upgrade card 80-006	twelve **Dali/DSI** digital dimming outputs linked to switching outputs - up to twenty DSI digital ballasts per output. plug-in screw-terminal ports accept max 1.5 sq.mm cable

local switch inputs
- switch input: module accepts connection of one standard momentary-action switch.
- smart switch input: module accepts connection of up to twelve smart switches and sensors on common buscable.
- smart bus plug-in terminal block accepts max 1 sq.mm cable. - smart bus cable maximum length - 100m.

Lon bus inputs
2 plug-in ports for two-core Lon bus connection - terminals accept 1.5 sq.mm cable.

buswire specification
330 V rms - twisted pair Belden 7701NH unshielded 22 AWG stranded
600 V rms - twisted pair Belcom 4001P22S54LSZH unshielded 22 AWG solid

dimensions (mm)
330 w x 380 h x 70 d

weight
4.4 kg

construction
painted galvanised steel enclosure & lid to IP50 finished in RAL 7035 50% gloss

ambient temperature / relative humidity
0 to +50°C / 20% to 90% no condensation

Lon specifications
Echelon LonWorks FT 5000 Smart Transceiver
FTX3 free topology communications transformer
64k EEPROM
Conforms to LonMark 3.4 guidelines and profiles
12 switch objects #3200
12 open loop actuator objects #0003
6 occupancy sensor objects #1060
6 occupancy controller objects #3071
1 light sensor object #1010
1 light controller object #3050

LONMARK

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