

DAMATROL MC512 H is a digital multifunction controller which permits all basic controller configurations such as PID, cascade and ratio control.

DAMATROL MC512 H can be configured either through its Panel Board with pre-programmed standard options, or with a PC and software using functional blocks.

TECHNICAL SPECIFICATIONS

Ambient requirements

- operating temperature: 0 to +50 °C
- storage temperature: -40 to +80 °C
- relative humidity: max. 80 %
- vibration: max. 1.3 mmpp, 5-14 Hz, 0.5 g, 14-150 Hz

Enclosure class

- panel-type enclosure: front IP40, rear IP40
- field-type enclosure: IP65

Dimensions

Panel-type enclosure

- weight: approx. 2.7 kg
- outside dimensions:
 - width: 72 mm
 - height: 144 mm
 - length: 430 mm (without display unit: 395 mm)
- panel cut-out: 68 x 138 mm
- with mounting collar: 3" x 6" (US std.)

Field-type enclosure

- weight: approx. 3 kg (one controller)
- outside dimensions:
 - width: 310 mm
 - height: 192 mm
 - depth: 270 mm

Power supply

- 230 V (-15 %...+10 %) 50/60 Hz
- 115 V (-15 %...+10 %) 50/60 Hz
- 20...40 V DC
- power consumption: max. 20 W

Power failure features

Preservation of data in memory

- all data: 24 h (e.g. signal values, trends)
 - parameters, calibration and configuration: 10 years
- Running mode after power failure is selectable by the user.



Analog connections

- common ground potential for analog inputs and outputs
- calibration through 0-20 mA (0-5 V) range; min. span 2 mA; standard calibration 4-20 mA
- resolution: 12 bits
- accuracy: ± 0.1 % of standard span

4 analog inputs

- current input impedance: 250 Ω
- voltage input impedance: 0.5 M Ω

2 analog outputs

Hart connection

Front-access port for transmitters that communicate via HART, Highway Addressable Remote Transducer, protocol

4 binary inputs

- common ground potential for binary inputs
- input impedance: 10 M Ω
- input signal: make-contact 24 VDC

4 binary outputs

- relay outputs
- voltage max. 30 V
- current max. 200 mA (max. values for resistive load)
- voltage free contact

4 transmitter supplies

- min. 24 V, 20 mA, short-circuit protected
- current limit: 24 mA

DAMATROL MC512 H XXXX

Enclosure versions

- E = Panel
- F = Field
- R = 19" rack

Supply voltage

- 1 = 230 V AC, +24 V DC
- 2 = 115 V AC, +24 V DC

Software

- N = fixed conf. C1
- P = PC conf.

Bus

- C = no
- L = yes

Code example:

DAMATROL MC512 H E 1 P L

DOCUMENTS

- CC804TEC for C1 fixed conf.
- CC804M, conf. sheet for C1
- CC804PCTEC for PC conf.

Configuration

Fixed configuration (C1)

- 3 controller loops
- 6 measurement and calculation loops (counters, min, max, +, -, x, /, $\sqrt{\quad}$, lin etc.)
- 4 binary logic loops (AND, OR, XOR)
- displays: 3 controller, 2 measurement, 1 four-column and 21 trends
- back up

PC configuration

- 80 different functional blocks
- 255 functional blocks per application
- 16 displays, 8 different types plus text and motor control display
- sequence of display pages/types is selectable
- back up

Buses

- internal bus: up to 15 Damatrol MC512 controllers
- PC bus: up to 15 Damatrol MC512 controllers; 1-4 buses/PC
- RS485 hardware
- Modicon Modbus RTU software
- baud rate: selectable, max. 38 kB

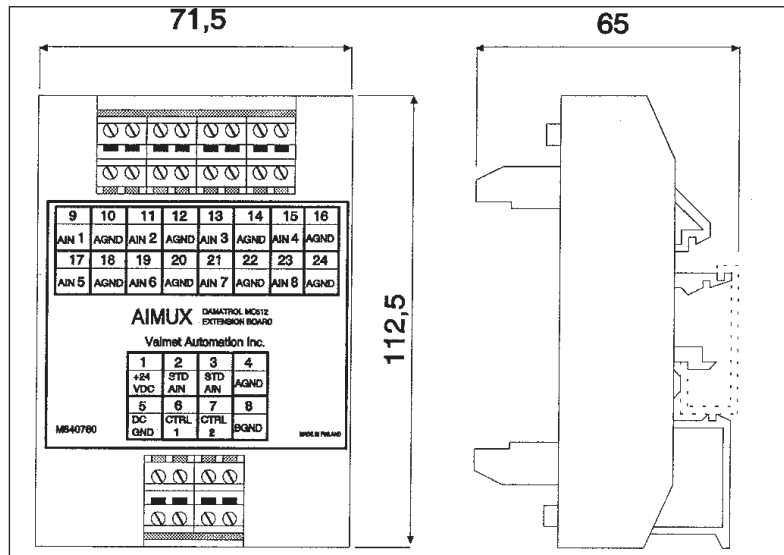
We reserve the right to make technical changes without prior notice.

I/O Expansion units

for DAMATROL MC512 H

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I/O expansion units are used to increase the number of standard DAMATROL controller's I/O connections. With expansion units the controller's standard I/O is multiplexed to max. four expansion I/Os. If required, several expansion units can be connected to a single controller. Up to 7 units can be connected to provide a maximum of 16 analog inputs, 8 analog outputs, 16 binary inputs and 8 binary outputs. The update interval of the I/Os will then be increased from the normal 100 ms to 400 ms. All I/O expansion units use external 24 VDC (-10% +20%) supply.



TECHNICAL SPECIFICATIONS

Construction

- Plastic base with terminal-block connections
- Metal cover

Operating temperature

- 0 to 50°C

Enclosure class: IP30

Installation

- On mounting rail TS35 DIN46277, BL1, 2 or 3.
- Recommended maximum distance from DAMATROL less than 5 m

Control

- DAMATROL's standard outputs BOUT3 and BOUT4 are used for control

NOTE!

Expansion units can only be used with DAMATROL MC512 H PC version.

Features

AIMUX

- Input resistance: 272R \pm 2 %
- Resolution: 12 bit
- Channel-specific calibration
- Accuracy for calibrated channel: \pm 0.15 % F.S.
- Difference between channels connected to same input: max. 0.5 %
- Thermal drift: \pm 0.05%/10°C F.S. (not including DAMATROL)
- Current consumption: max. 75 mA, not including AIN signal currents

BIMUX

- Binary inputs are grounded and electrically isolated from analog signals
- Switch's leakage current can be max. 1 mA, minimum voltage capacity 30 V, and minimum current capacity 15 mA
- Unconnected input is read as zero
- Current consumption: max. 100 mA

AOMUX

- Resolution: 12 bit
- Channel-specific calibration
- Accuracy for calibrated channel: \pm 0.15 % F.S.
- Difference between channels connected to same output: max. 1.5 %
- Thermal drift: \pm 0.05%/10°C F.S. (not including DAMATROL)
- Current consumption: 50 mA

BOMUX

- Relay's normally-open contact as output
- Open contact corresponds to the "0" state
- Without power supply the state of the outputs is "0"
- In undervoltage conditions, or when DAMATROL control is off, the outputs will go to "0" state after approx. 1.6 s

Performance specifications for resistive load:

- Maximum current: 100 mA
- Maximum voltage: 30 V
- Insulation voltage: 1000 VAC RMS
- Switch resistance: max. 0.2 Ω
- Current consumption: 200 mA

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