

Mobrey MCU900

Universal control units



- ▶ IS Supply to transmitter
- ▶ 4-20mA / HART input
- ▶ Isolated 4-20mA output
- ▶ 5 Control relays
- ▶ Multi-function back lit display
- ▶ Wall or panel mount
- ▶ Pre-programmed linearisation
 - Contents
 - Open channel flow

Introduction

The MCU900 series of wall and panel mounting control units provide comprehensive control functionality for any 4-20mA or HART compatible transmitter. A back-lit display gives clear visual indication of the measured value and status of all inputs and outputs. Mounted in a non-hazardous area, the mains powered MCU900 provides a protected 24V dc power supply to the transmitter, which may be installed in a hazardous area.

The input signal from the transmitter may be offset, damped, scaled and linearised as required. A range of pre-programmed linearisation algorithms are user selectable.

The 4-20mA output signal may also be scaled to re-transmit all or just part of the input signal or calculated value.

5 relays are provided and are fully field programmable to perform a wide variety of control, fault indication or alarm duties.

The MCU900 is configured using an integral 6 button keypad and an easy to navigate menu structure.

Many popular configurations are "Wizard assisted", enabling fast and accurate programming.

Typical applications include level, distance and contents measurement, plus open channel flow measurement in accordance with BS3680 Pt. 4, ISO1438/1 and ISO4359.

Control unit features and application

- ▶ Tough polycarbonate weatherproof wall mount enclosure for internal or external mounting. Panel mount units require just 165mm clearance behind the panel.
- ▶ Accepts any 4-20mA or HART compatible input, allowing standardisation of control room layout.
- ▶ Control units are 240/115V ac powered and provide an Intrinsically Safe 24V dc power supply to the transmitter.
- ▶ Supports two voltage free contact closure inputs, allowing override of control functions on external triggers.
- ▶ Pre-programmed tank shapes, flow algorithms and pump control routines simplify configuration. A 20 point DIY facility is provided for non-standard applications.
- ▶ Real time clock allows energy saving routines and pump efficiency calculations.
- ▶ 5 voltage free SPCO relays for alarm and control duties.
- ▶ 4-20mA 12 bit isolated current output proportional to calculated value.
- ▶ Clear visual display of measured value with units and relay status. Also used to guide user through programming menu.
- ▶ Wizard assisted programming, with password protection to prevent unauthorised access.
- ▶ MCU902 model accepts input from two transmitters and performs sum or differential calculations, providing a single current output proportional to the answer.



Technical specification

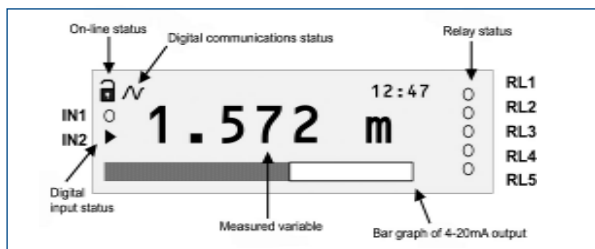
Electrical		Mechanical	
Supply voltage	98Vac - 132Vac 50/60Hz/18VA max & 198Vac - 254Vac 50/60Hz/18VA max	Material	Polycarbonate
Power consumption	15Vdc to 30Vdc / 9W max.	Dimensions	<i>Wall mount:</i> 213mm wide x 185mm high x 84mm deep <i>Panel mount:</i> Cut out 139 wide x 69 high. Allow 165mm clearance behind panel
Current input	4-20mA and/or HART Digital communications (Rev. 5) Supplies 23V from 400Ω source resistance	Enclosure rating	<i>Wall mount:</i> IP65 indoor/outdoor <i>Panel mount:</i> IP42 (indoor mount) : IP65 Hood kit available
Trigger inputs	2 voltage free contact closures	Environmental	Installation category: 115V: Cat.III 230V: Cat.II Pollution degree: 2 Altitude: 2000m max. Relative humidity: 100%
Current output	4-20mA isolated into 1 Kohm (12 bit)	Temperature	-40°C to +55°C. (Use air circulation fan if 3 or more panel mounting units are installed in same cabinet)
Relays	5 SPCO, 5A at 240V ac	Approvals	ATEX coding II (1) G CENELEC coding [EEEx ia] IIC FM Pending
Cable entry	5 positions pre-drilled. 2 glands and 3 blanking plugs provided		
Cable connection	<i>Wall mount:</i> Cage clamp terminal blocks in separate terminal compartment <i>Panel mount:</i> 2 part cage clamp terminal blocks at rear		

Ordering information

MCU	Mobrey Control Unit
901	Level/Flow/Contents: single transmitter
902	Level/Flow/Contents: differential / sum
LOG	Level/Flow/Contents: logging
WX	Wall mounting enclosure
PX	Panel mounting enclosure
-A	ATEX certified, mains powered
-A24	ATEX certified, 24Vdc powered
-U24	FM certified (pending), 24Vdc

MCU 901 WX -A Typical model number

Display



Accessories and associated equipment

MCULOG A version of the MCU901 control unit with on-board logging capability. Will log up to 4800 samples plus 60 totalised values. Supplied with Mobrey Log-View software to allow data download and manipulation on a Windows compatible PC. See data sheet IP2033.

MSP-RMK1 128.5mm high x 213mm wide x 2.5mm thick aluminium panel to fit standard 3U rack with cut-out to accept one panel mounting control unit.

Systems for the water industry Level and flow control systems designed for the water industry, featuring Mobrey ultrasonic and hydrostatic transmitters together with MCU900 control units. See data sheet IP203.

Useful installation information is given in instruction leaflet IP2030/IM, and application and operating information for Mobrey systems is given in Quick-start booklets IP2040/QS, IP2041/QS & IP2042/QS available on request.

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