

# Technical Datasheet



## Process Controllers Programmable Controller DMCU800



### Key Features

- Low cost solution
- 4 digit bright LED display
- Panel Mount and Wall Mount models
- Suitable for use with loop powered 4-20mA transmitters
- Linearisation for non-linear tank shapes using look-up table
- Universal input for 4-20mA, RTDs, 6 T/Cs, and 4 linear types
- Five relay outputs available
- RS485 serial interface available
- 24Vdc supply for 2-wire transmitters



### Series Overview

The Delta Mobrey DMCU800 can be used in a wide range of applications. It has a large 4-digit LED display and a simple user interface. The DMCU800 accepts a number of input types, such as 4-20mA, voltage, Pt100, Pt1000, PTC. The device has a built-in circuit for self-testing and self-calibration, manual measurement offset setting, and automatic software compensation of line resistance and cold junction temperature.

The display-to-input correspondence (in case of linear input), decimal point position, temperature measurement unit, and offset value are also programmable. Thanks to its universal input, the available enclosure options and a serial interface, combined with excellent price-to-performance ratio, the DMCU800 is an exceptionally versatile device.

### Other related products

- D21 Pressure Transmitters
- Submersible Type Level Transmitters
- DMSP422 Ultrasonic Level Transmitter



### Product applications

The Process Controllers can be used in a range of applications and offer several options to adapt to many different applications :

- Wastewater and Water Treatment
- Chemical & Petrochemical Industry
- Marine Industry
- Power Industry
- Hydraulic & Pneumatic Industry
- Food Industry

### How can we help you?

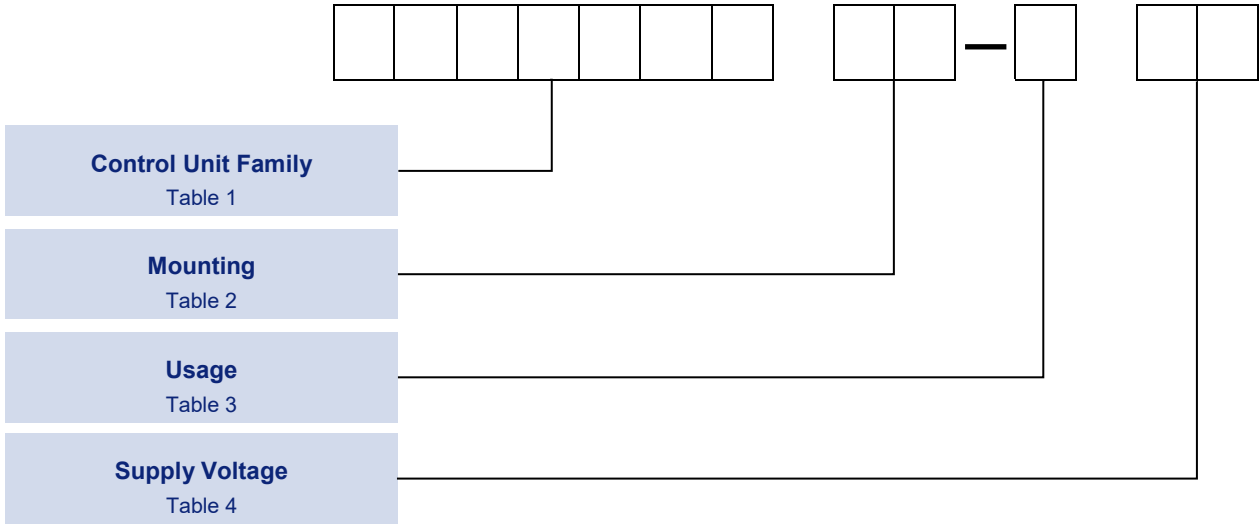
Delta Mobrey's offers fast, efficient and knowledgeable support when and where you need it. Please visit our website at [www.delta-mobrey.com](http://www.delta-mobrey.com) to find your local support centre or call us on:

**+44 (0) 1252 729140**

Process Controller  
Model: DMCU800

## How to order

DMCU800 controllers can be configured by selecting codes representing the desired features from the tables that follow. The chart below, describes how the model code is built up. For assistance in configuring a controller that best suits your needs, please contact your local sales office.



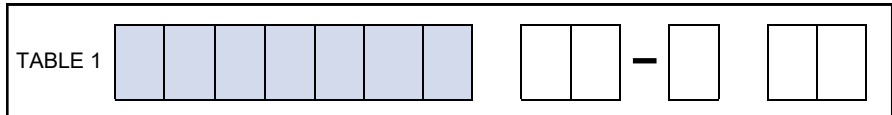
**Control Unit Family**  
Table 1

**Mounting**  
Table 2

**Usage**  
Table 3

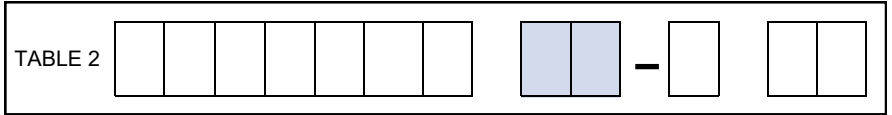
**Supply Voltage**  
Table 4

## Control Unit Family



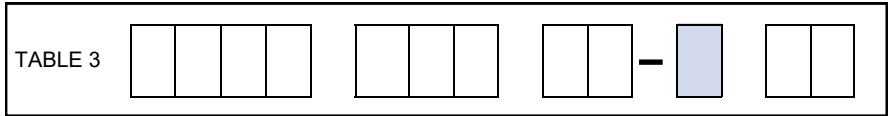
Description	Code
Control unit. 4-20mA and RTD inputs. mA and 5 relay output	<b>DMCU801</b>

## Mounting



Description	Code
Wall mount	<b>WX</b>
Panel mount	<b>PX</b>

## Usage

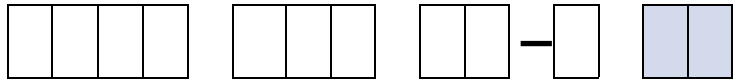


Description	Code
Safe area use only	<b>N</b>

Process Controller  
Model: DMCU800

## Supply Voltage

TABLE 4



Description	Code
230 VAC or 115 VAC	no code
24 VDC	24

## Technical Data

### PROGRAMMABLE INPUT

Two-wire external transmitter	4.....20mA ( <b>note 1</b> )
Pt100 (w=1.385); 3-wire	-100.....850 °C
Pt1000 (w=1.385); 3-wire	-100.....600 °C
PTC (1k at 25 °C); 3-wire	-50.....150 °C
PTC (2k at 25 °C); 3-wire	-50.....150 °C
Thermocouple "T"	-40.....400 °C
Thermocouple "J"	-20.....1000 °C
Thermocouple "K"	-20.....1300 °C
Thermocouple "S"	0.....1700 °C
Thermocouple "R"	0.....1700 °C
Thermocouple "B"	100.....1800 °C
Linear voltage 0...10 V	-1999.....9999 programmable
Linear current 0(4)...20 mA	-1999.....9999 programmable
Linear resistive 0...1 kΩ	-1999.....9999 programmable
Custom linear (option)	-1999.....9999 programmable
Manual input offset	programmable
Input type selection	programmable
Decimal point selection	programmable
Temperature measurement unit	°C or °F programmable

### ACCURACY

Measurement error	0.3% from span
Temperature drift	0.02% from span for 1 °C
Cold junction compensation	automatic, -10...80 °C
RTD line compensation	automatic, up to 2 x 25 Ω

### POWER SUPPLY

Mains supply voltage	230 VAC or 115 VAC
SMPS voltage	90...250 V
Isolated low voltage	12...24 V or 24 VAC
Non-isolated low voltage	12...24 V
External mains transformer	9(12) VAC
Consumption	max. 2 VA

### INDICATION AND CONTROLS

Digital display	4 LED indicators
LEDs	5 LEDs for relay output status
Keyboard	3 membrane keys

### OPERATING CONDITIONS

Panel mount	IP54
Wall mount	IP65
Ambient temperature	-10...65 °C
Ambient humidity	0...85 %RH

### NOTE 1:

Provides loop supply voltage - 24 VDC (only w/ isolated power supply).

## OUTPUTS

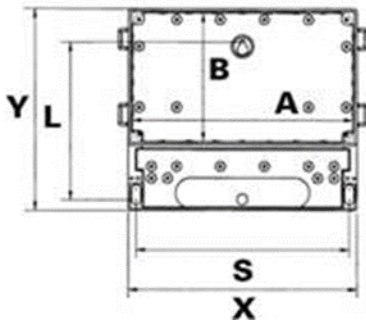
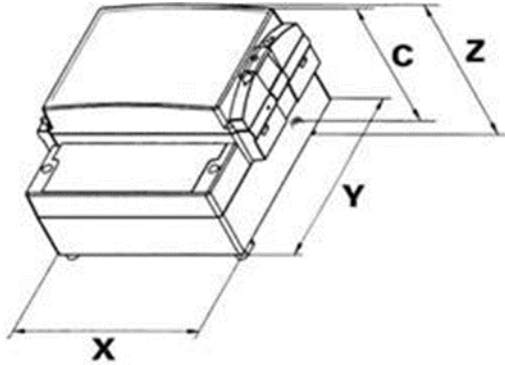
### PROGRAMMABLE INPUT

Relay electromechanical	5A/250V w/NO/NC
Solid state relay	1A/250Vac
Output for external SSR	5...24 V, 30 mA
Control algorithm	ON/OFF
Set point	within input range limits
Alarms	programmable
Serial interface	RS485, isolated
Input type selection	programmable
Decimal point selection	programmable
Temperature measurement unit	°C or °F programmable

# DIMENSIONAL DRAWINGS

## WALL MOUNT IP65 MODEL

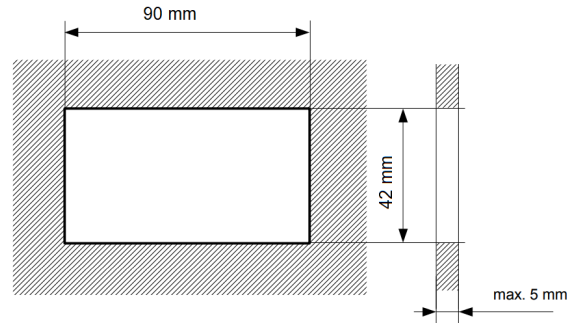
X=188mm, Y=160mm, Z=134mm



## PANEL MOUNT IP54 MODEL

External dimensions 96mm x 48mm

Panel cut out:



Mounting depth: 98mm

# Approvals



### EMC Directive 2014/30/EU

Models: DMCU801\*\*-N, DMCU801\*\*-N\*\*

Conformity assessment procedure: module A

The following standards were applied: EN 61326-1:2013; EN61326-2-3:2013

### Low Voltage (LVD) 2014/35/EU

Models: DMCU801\*\*-N.

The following standard was applied: EN IEC 63000:2018

### Restriction of hazardous substances (RoHS 2) 2011/65/EU

Models: DMCU801\*\*-N, DMCU801\*\*-N\*\*

The following standard was applied: EN IEC 63000:2018

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Model: DMCU800

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