C-mac®

4 digit universal instrument DP545

Universal inputs: mA, V, resistance/potmeter, Pt100, TC
2 relay outputs + analogue output
Programmable range, function and setpoints
Galvanic isolation between supply and internal electronics
Made in accordance with the CE and EMC regulations

The DP545is supplied with universal metering inputs for direct connection to Pt100 and various TC temperature sensors, as well as linear current, voltage and resistance/potentiometer signals.
Built-in voltage references enables direct connection of 3-wire potentiometers and 2-wire transmitters.
The instrument is supplied with 1 analogue output and 2 relay outputs, all outputs are programmable.
A digital control input can be used for either HOLD function or display reset (tare).
Programming of the in- and output ranges is possible either with internal pre-calibrated signals or with external signals.
The unit is fully programmable via the keys on the front panel, and access limitation in several levels is possible.
Reaction delay on both the display reading and the output relays is programmable too.
On the front panel there is a field, in which the metering unit (%, °C, kg, ...) can be inserted.

Universal metering input:

The input configuration is programmable, and the selection between input pins, metering current etc. is automatically selected, when the actual input is programmed.

Pt100 temperature metering with 3-wire cable compensation. It is possible to enter a manual correction of the metering signal.

TC temperature metering with standard thermocouple sensors, either with internal CJC or manually programmed CJC temperature.

Linear resistance metering with 3-wire cable compensation.

DC current metering with built-in input protection.

DC voltage metering, either direct metering, or relatively via 3-wire potentiometer.

2-wire transmitter current metering via built-in supply for transmitter.

Digital input:

Galvanically isolated input for display HOLD or reset (tare) function.

Outputs:

2 relay outputs with change-over contacts. Function, setpoint, delay, etc. is programmable.

1 analogue output, programmable in the range 0-20 mA / 0-10 V, normal or inverted function.

Display / operation:

4-digit LED (+/-9999) with programmable display intensity and decimal point, 2 LED's for relay position, 2 LED's for input trend (rising/falling), and 4 LED's used during programming.
3 buttons used during programming.

Technical data:

Supply voltage:	24 V AC/DC The supply voltage is galvanically isolated from the internal electronics. (test voltage 4 kV AC)
Power consumption:	2 VA
Operating temp.:	-10°C to +50°C
Humidity:	0 - 90% RH, non-condensing
Digit height:	13 mm.
Protection:	IP 65 (front panel only)
Calibration accuracy:	better than +/- 0.1% FS
Reference temp.:	23°C
Temp.coefficient:	max. 0,01% FS / °C
Linearity:	better than +/- 0.1% FS
Mech. dimensions:	in accordance with DIN 43700
L x W x D:	48 x 96 x 105 mm.
Panel cut-out:	43 x 91 mm.
Weight:	350 g.
Materials:	NORYL, SE1
Connections:	screw terminals, max. 1,5 □ mm.

I / O specifications:

Metering input:

Current.

Metering range: 0...20 / 4...20 mA (max. 25 mA)
Input resistance: 50 Ω (supply connected)

Voltage.

1. Metering range: 0...10 / 2...10 VDC (max. 12 VDC)
Input resistance: typ. 130 kΩ

2. Metering range: 0...1 / 0.2...1 VDC (max. 1.2 VDC)
Input resistance: typ. 10 MΩ

Potentiometer (3-wire connection).

Potmeter value: 100 Ω ... 10 kΩ
Ref. voltage: typ. 1.2 VDC

Linear resistance (3-wire cable compensation).

Metering range: 0...400 Ω
Cable resistance: max. 10 Ω / wire

Pt 100 (3-wire cable compensation).

Metering range: -200...800°C (FS)
Display resolution: 0.1°C
Sensor current: typ. 1 mA
Cable resistance: max. 10 Ω / wire
Basic accuracy: +/- 0.5°C
Temp. coefficient: < +/- 0.04°C / °C ambient temp.

Thermocouple.

Range, type E: -60..+ 780°C (FS)
Range, type J: -60..+1000°C (FS)
Range, type K: -100..+1300°C (FS)
Range, type R: -50..+ 980°C (FS)
Range, type S: -100..+1750°C (FS)
Range, type T: -100..+ 400°C (FS)

Display resolution: 1°C
Basic accuracy: +/- 2°C
CJC accuracy: internal comp. +/- 2°C
Temp. coefficient: < +/- 0.1°C / °C ambient temp. (E, J, K, T)
< +/- 0.3°C / °C ambient temp. (R, S)

Digital input:

Active input: > 12 VDC
Not active: < 5 VDC
Input current: 10 mA @ 24 V

Analogue output:

1: Current: 0...20 / 4...20 mA (max 22 mA)
Load resistance: max. 500 Ω

2: Voltage: 0...10 / 2...10 VDC (max. 11 VDC)
Output resistance: typ. 500 Ω

Relay outputs (change-over contacts):

Max. load, AC: 250 VAC / 2 A
Max. load, DC: max. 2 A, max. 100 W

2-wire transmitter supply:

Voltage: typ. 15 VDC @ 20 mA
Current: limitation, 24 mA

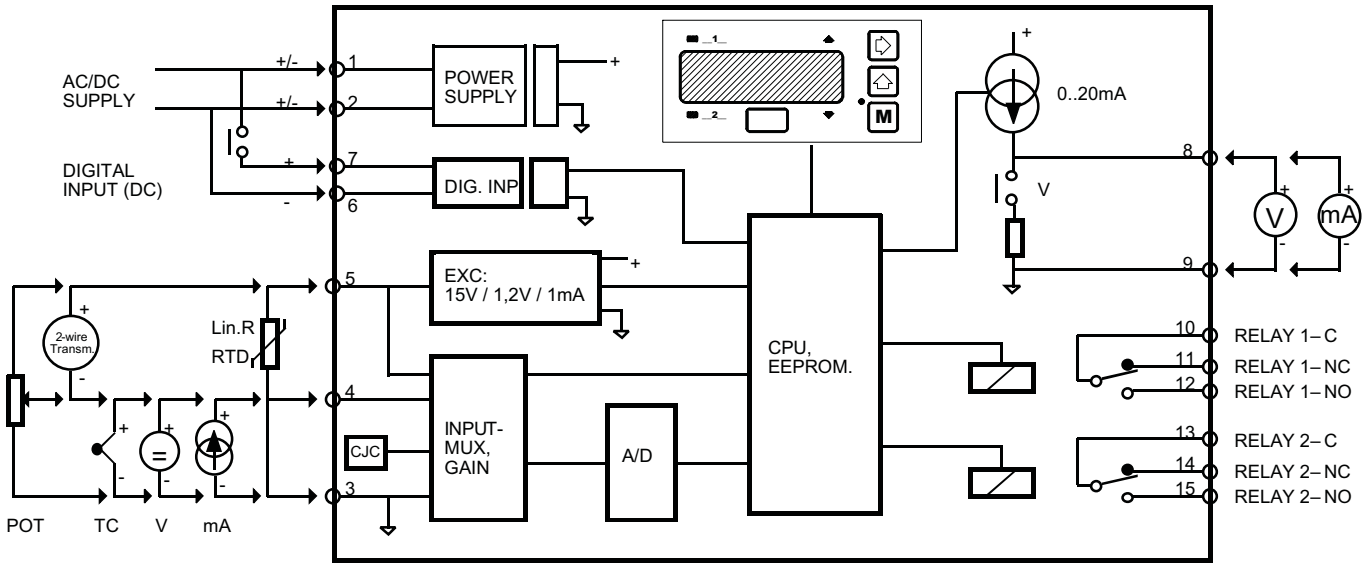
Potentiometer reference:

Voltage: typ. 1.2 VDC
Current: limitation, 24 mA

Metering current, Pt100:

Current: typ. 1 mA
Internal load: max. 450 Ω

Ordering guide: DP545-1-1-1-1



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