LOOP-POWERED DIGITAL
THERMOMETER/TRANSMITTER
type **Loop Temp**

- Supports various Pt RTD 1.385 sensors
- Full scale -50-600℃ or other on request, with configurable measurement range
- Loop-powered transmitter output 4-20mA according to the configured range
- 4-digits LCD Display
- Stainless Steel Case, dia. 100mm or 80mm, IP65 protection

The thermometer/transmitter type DPT420V2 supports standard Pt100 (Pt500, Pt1000) sensors and digitally displays the temperature in °C (or °F). The resolution is 0.1°C. 2- or 3-wire connection of RTD probe is provided. The special 3-wire connection assures full line compensation of connecting wire resistance and permits a longer distance between the sensor and the instrument. DPT420V2 is offered in two sizes – 100mm or 80mm. It takes power from the current loop with a voltage drop of less than 8V. The measurement range is configurable within the full scale and corresponds to the 4-20mA output. The device can store a separate range for °C and °F.

The transmitter can be used in various applications and industries. It is specifically designed to be suitable for use in the food & beverage, chemical and pharmaceutical industries, and can be sealed after the initial configuration, if requested.

*We can provide it in a set with RTD probe – with custom construction and dimensions on request

Characteristics of type LOOP TEMP
- stainless steel case with 100 or 80 mm diameter, IP 65
- input from Pt100, Pt500, Pt1000 (DIN IEC 751, a=1.385), 3-wire connection; or other RTD types
- full scale -50°C to 600°C (or other on request)
- 4-digits LCD display, 12mm height, 4 sec update rate
- additive correction up to ±5 °C or ±9 °F, resolution 0.1
- ambient temperature – from -20°C up to +55°C
- accuracy – 0.25 % from F.S.
- sensor cable length: up to 200 m
- two-wire 4-20mA analog output, loop powered
- configurable measurement range within the full scale limits, proportional to the 4-20mA output
- el. connection via detachable cable plug PG7, 4-pin
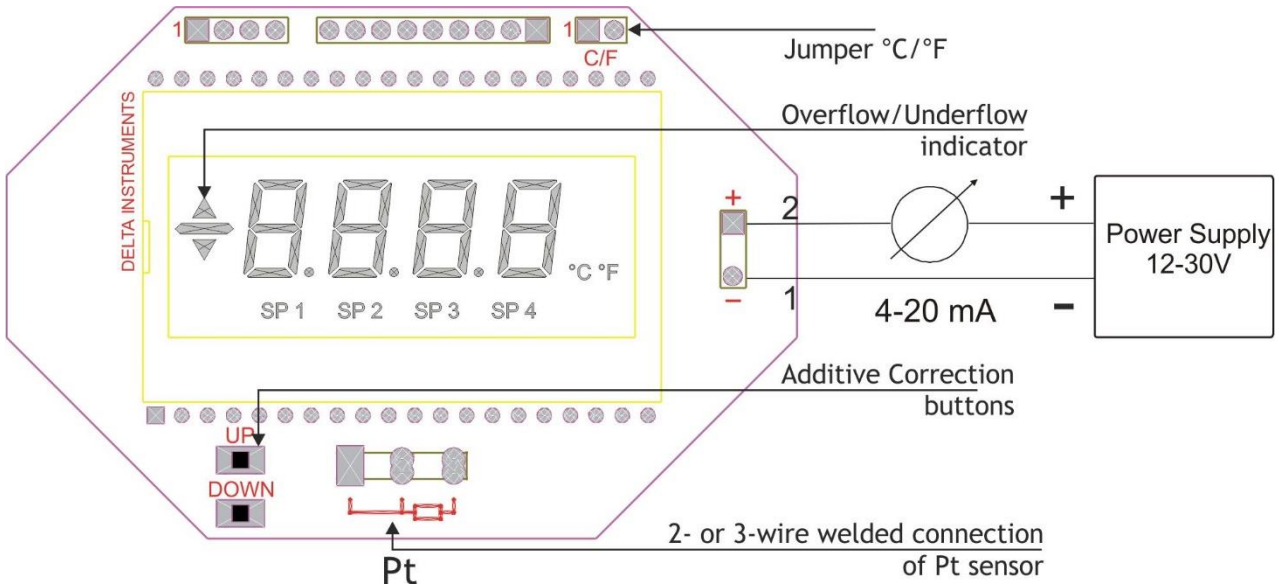
To connect the analog output and power supply, use pins 1 and 2 of the detachable cable plug, as shown on the diagram: 1 is – and 2 is +.

CONFIGURATION INSTRUCTIONS

To do any configurations, you need to unscrew the lid of the protective housing, unscrew the two screws of the metal front panel and remove it, to reach the display PCB.

Additive correction

DPT420V2 supports additive correction (aka zero adjustment) up to ±5 °C or ±9 °F with resolution of 0.1. To adjust the measured temperature value, you can use the two buttons UP and DOWN shown on the diagram below. Pressing any of them initially enters the additive correction mode (indicated by symbols SP3) and displays the currently saved correction value. Any subsequent press of UP will increment and DOWN will decrement the correction. If you hold any button pressed, the correction will change more rapidly. If you don't press any button for 3 seconds, the new correction value will be saved and the device will enter standard measurement mode.

In standard measurement mode the symbols SP4 are blinking every few seconds as a heartbeat, indicating that the measured value is being updated.

Change of the measurement unit

To switch between °C and °F you can use the jumper C/F shown on the diagram below. Please note that switching the jumper will reset the saved additive correction.

Range

Initially the measurement range is set to match the full scale of the device (e.g. -50-600 °C). You can limit it further within the full scale by using the UP and DOWN buttons. You need to hold them pressed together for about 2 seconds until the display shows the 'Underflow' indication ▼ and the set value corresponding to 4mA. The last digit should be blinking. Use the UP button to change its value or the DOWN button to switch to the digit to its left. The same applies to changing the value of any digit, as well as the most-left sign if you need a negative value. When you are done with the value corresponding to 4mA do not press any buttons for 4 seconds and the display will switch to setting the value corresponding to 20mA. In that case the 'Overflow' indication ▲ is shown, as well as the currently set value. Follow a similar procedure to configure it.

CONNECTION AND MOUNTING OPTIONS

The device can be provided with various sensor connection and mounting options.
- Bo0 – radial (bottom) sensor connection without backside flange (e.g. for direct mounting)
- BoF – radial (bottom) sensor connection with backside flange (e.g. for wall mounting)
- Ba – backside central sensor connection (e.g. for direct mounting)

The **process connection options** to the sensor probe are also various: e.g. stainless steel sockets with threading 3/8" or 1/2" G (BSPP) or NPT or M16 x 1.5, cable plugs PG7 or PG9, or others. Please specify when making an enquiry or order.

We can also provide a variety of **temperature probes** to go as a set with the device (connection through cable or direct threaded or welded) in different constructions - sizes, shapes, process connections, cable types and lengths, etc. If you need us to provide such, please describe your structural requirements.