

# OPERATION MANUAL



## Screw in temperature probe DS18S20-series with thread G1/8"

### Description



### Characteristic features

- Probe with thread G1/8", Ø6 x 30 mm
- Pressure resistant. 20 bar, with sealing
- Sensor in stainless steel protective sleeve (1.4301)
- Splash waterproof
- M12 plug connector
- Resolution 0,06 °C
- Accuracy ±0,5 °C nominal (from 0...+85 °C), as per data sheet of manufacturer
- Scratchpad memory for probe identification

### Areas of application

- Pneumatics and hydraulics
- Cold storage devices
- Science and research laboratories
- Industrial temperature logging
- Building automation, air conditioning

### Technical data

| Screw in probe DS18S20 with thread |   |
|------------------------------------|---|
| Temperature measuring range        | -20...+80 °C  |
| Operating range                    | -20...+80 °C  |
| Accuracy                           | ±0,5 °C (-10...+85 °C)  |
| Sensor                             | DS18S20   |
| Probe                              | Stainless steel 1.4301<br>Length 30 mm; Ø 6 mm,<br>Thread G1/8" |
| Connection                         | M12-plug, 4-pole  |
| CE-conformance                     | 2014/30/EU  |
| EMV-noise emission                 | EN 61000-6-3:2011   |
| EMV-noise withstanding             | EN 61000-6-1:2007   |

| Artikel                        | Art.-Nr.        |
|--------------------------------|-----------------|
| Screw in probe G1/8", NL 30 mm | DS1820-G18-30MM |

### Features

The pressure resistant measuring probe can be screwed with a G1/8"-screw in thread.

This models with seal ring are suitable up to 20 bar.

They are also suitable for measurement in gas medium.

### Temperature range

The Dallas temperature sensors are semiconductor sensors. The un-housed sensors are suitable for temperature measurement in the range of -55...+125 °C. These temperature values are the final limits and operating above these values is not at all recommended, otherwise the component can get damaged.

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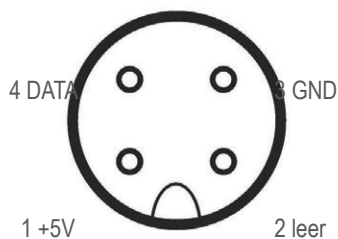
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### Installing and configuration

The Dallas temperature sensor of type 1820 has an internal identification (serial number) and can be operated in parallel together with several other components on a three-wire bus. After wiring all the sensors, the PC adapter must be individually configured for the connected sensors. Operation is not possible without prior configuration of the system. Since the configuration is stored in the internal EEPROM of adapter, this process is to be done only once. Only if an additional sensor is to be used on the existing network, the configuration needs to be repeated.

The sorting of probes, found on the network, is done on the basis of binary serial number.

Front view



### Measuring accuracy

The sensors are calibrated during manufacture and have a typical measuring accuracy of  $\pm 0.5$  °K at 23 °C application temperature. At the upper and lower limit of measuring range, the accuracy is somewhat on the lower side. Further information is available in the data sheet of component at the website of manufacturer.

During all temperature measurements, the physical conditions are also to be taken care of in order to avoid measuring error, which mainly decides the precision of measuring arrangement.

### Thermal heat transfer of sensor-connecting wires

This measuring error can be minimised by itself, for example, if the connecting lead used is as thin as possible and the connecting material is a bad thermal conductor or if the connecting wire is tempered with the measuring object.

In principle, of course, the highest measuring accuracy is achieved through immersion in liquids or in a mounting tube. However, an additional measuring error should be included while taking measurements on surfaces.

### Accessories

| Accessories   | Articleno. |
|---|------------|
| Temperature measuring system TLOG with RS232-interface                            | 0567 0002  |
| Temperature measuring system TLOG with USB-interface                              | 0567 0004  |
| Temperature measuring system TLOG-with RS485-interface<br>Hytelog multisensor USB | 0567 0003  |
| Distribution box 10-hub with housing  | VERT-GEH   |
| Connection cable M12, 2000 mm   | 0409 1051  |

### Attention

Please avoid extreme mechanical and inappropriate exposure.

The device/product is not suitable for potential explosive areas and medical-technical applications.