OPERATION MANUAL

Distribution Box for Temperature Measuring System, 10 Sockets RJ12

Description

Technical Data

Distribution box 10-port with housing	
Operation range	-40...+70 °C
Connection	RJ12-connector
Ingresss Protection	IP40
Dimensions	(WxHxD) 90x 56x 23 mm
Scope of delivery	Distribution box incl. 2 m RJ11 connection cable
CE-conformance	2014/30/EU
EMV noise emission	EN 61000-6-3:2011
EMV noise withstanding	EN 61000-6-1:2007
Article no.	VERT-GEH

Formation of temperature sensor Networks

All necessary components, with plug-in type RJ12 (or RJ11) connectors, are available for the 16 channel temperature measuring system so that a fully functional system can be developed even without soldering knowledge.

The speciality about wiring of the sensors is the „Bus technology“: All sensors can be driven parallel on a 3-wire line over which both supply and data communication can run through.
Hence, the bus topology is completely arbitrary: it can built both as a star or extended structure. Mixed forms are also possible. It is only to be ensured that the sum of all connection cables does not exceed the maximum allowable length of approx. 60 m.

Characteristic features

- Plug-in type distribution box for DS1820 temperature probes
- 10 Sockets RJ12 usable for up to 8 or 9 Temperature sensors
- Integrated pullup resistor and decoupling capacitor
- Ready made, in plastic housing
- inclusive of 4-core connection cable (2 m) with both side plug RJ12 (6P4)

Typical areas of application

- Monitoring of frozen goods as per cold storage regulations
- Building instrumentation
- air conditioning systems
- Quality assurance
- Science and research laboratories
- Industrial temperature logging

Hub

For connection of multiple probes, a hub is available with 10 ports (RJ12). One port is used for connection of temperature logger, and if necessary, another port is used for connection of another hub. As a result, 8 to 9 ports are available for connection of temperature probes.

The hub has a supply capacitor and a pullup resistance of 10 kΩ for compensation of connection capacitance. An RJ11 cable (2 m, RJ12-compatible) is also included in the scope of supply of hub, which is required for connection to a PC adaptor or for cascading with another hub.

Connection cable

For short connection lengths, there are no special requirements for the cable to be used. With unshielded cable, a larger connection length can be obtained in an undistorted environment, since the capacitive bus load is less. With additional measures, a total length of 60 m or more can be achieved without any problems.

In disturbed environment, the cable should be shielded in order to improve the noise immunity of the system. Due to higher capacitive loading, the maximum possible connection length is less for a shielded cable.

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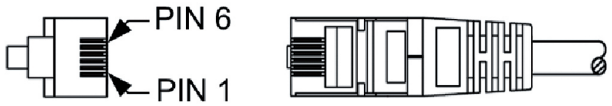
Pin configuration of RJ12-plug connector

The Western-plug connector is configured as follows (View on the cable, i.e. contact surfaces of the plug!):

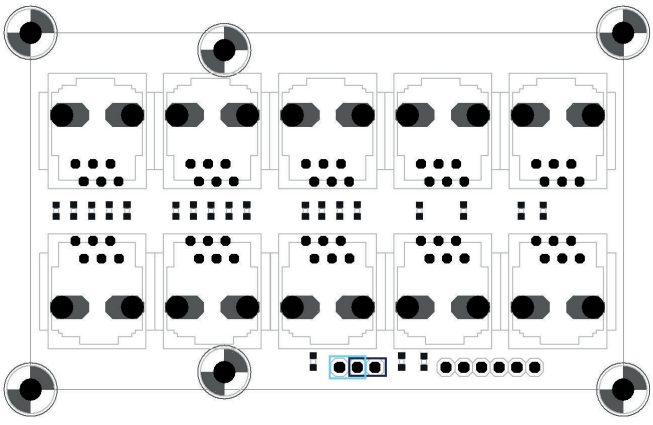
1	Shielding or unoccupied
2	Ground
3	Dallas Data or unoccupied
4	Dallas Data
5	+5 V
6	+5 V or unoccupied



In 4-core connection cable, PIN 1 and PIN 6 are not occupied. PIN 3 and 4 are bridged together at the PC-adapter. Only PIN4 is needed to connect the data line of the sensor.

Increase in connection length

The sum total length of all connection cables should be within around 60 m to ensure reliable functioning. By wiring of an additional pullup resistance of 1.5 to 10 kΩ (Line DATA against +5 V), the cable length can be increased with minor deterioration in measuring accuracy due to higher self heating of the sensors.



Bright frame: position for longer cable length
Dark frame: position for shorter cable length (better measuring accuracy)

Scope of delivery

Distribution box incl. 2 m RJ11 connection cable

Accessories

Accessories	Articelno.
Temperature probe DS18S20 with connection cable and RJ11 plug, available in different lengths	DS1820-LC
Temperature probe DS18S20 with PUR-cable and RJ12 plug, available in different lengths	DS1820-PUR
Presure resistant temperature probe DS18S20 with M10 thread, available in different lengths	0555 0251
Temperature measuring system with RS232-interface	0567 0002
Temperature measuring system with USB-interface	0567 0004
Temperature measuring system with RS485-interface	0567 0003

Attention

Please avoid extreme mechanical and inappropriate exposure.

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

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