Storm-04

Terminal for technology monitoring and controlling

→ **collection of telemetry data**
→ **temperature measurement unit**
→ **broad range of interfaces**

Storm-04 is a multi-functional terminal from the Storm family that meets all general standards for SCADA systems in telecommunications, industry, the power sector and other fields. The terminal is equipped with a number of communication interfaces through which it can be easily integrated into customers' existing systems. Typical use includes monitoring ambient conditions and consumption, signal transmission and remote control.

→ Basic Characteristics

- broad range of inputs and outputs
- easy extension via Storm extension modules
- easy installation of a many 1-Wire bus sensors
- the ability to add special custom functions
- communications interface for easy integration using a number of standard protocols
- local and remote configuration, parameter setting and diagnostics
- automatic upgrade and update
- suitable for installation with a grounded plus or minus backup battery pole
- Smart Grid measuring element
- easy integration for IoT and Cloud solutions

→ Communication

- 1-Wire data bus
- RS-232, RS-485 and Ethernet serial and network interfaces
- broad range of standard communication protocols
- the ability to communicate in multiple directions simultaneously
- data storage when the communication link goes down
- time sync via communication protocol

→ Typical Use

- data collection and processing for technology of communication providers
- universal RTU with PLC functions for monitoring and controlling equipment in industry and transport
- monitoring building security equipment
- terminals for on-line transmission of data from power meters and consumption meters for other utilities (gas, heat, water)
- power plant monitoring, control and regulation
- power industry monitoring, control and automation
- delivery for integration into technological components and facilities
- available as an OEM product for manufacturers, suppliers and system integrators
- connection of sensors for measuring temperature, relative humidity, atmospheric pressure, light intensity, flooding, atmospheric CO content, distance, position and many other parameters

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storm-04

Terminal for technology monitoring and controlling

Technical Specifications

Digital inputs	16x opto-element, passive input
Digital outputs	4x relay with switching contact
Data bus	2x bus for 1-Wire sensors
Communication interface	Ethernet, RS-232, RS-485
Build	9M width plastic case
Mounting	35 mm DIN rail
Protection	IP 20
Power supply	24 V or 48 V DC with galvanic separation
Typical draw	50mA
Service temperature	-30 to 70 °C
Maximum ambient humidity	95% without condensation
Weight	max. 150 g
Dimensions (w x h x d)	158 x 90 x 60 mm (9 modules)
EMC emission standards and immunity standards	IEC 61000-6-4, IEC 55024, IEC 55022, IEC 61000-6-2

Communication Protocols (depending on interface)

RS-232, RS-485	IEC 60870-5-101, Modbus (RTU)
Ethernet	IEC 60870-5-104, Modbus TCP, DNP 3.0 TCP
1-Wire	1-Wire

Digital Input Parameters

Organization	8 x 1 + 8 x 1, common minus
Galvanic separation	yes
Galvanic separation	300 V AC 300 V DC 2500 V DC 1 minute
Conductor connection	2x WAGO 734-10 ten-pole connector
Connecting conductors	max. cross-section 0.75 mm^2
Input status indication	green LED
Application examples	one-bit, two-bit inputs for signalling and faults (with/without time), impulse counters, data storage during communication outage, calculation of derived quantities

Digital Output Parameters

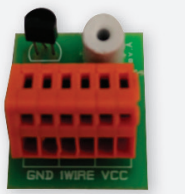
Organization	4 x 1 DO, common point
Switched current	activation 4A deactivation DC 24 V / 4 A , DC 110 V / 0.3 A
DO galvanic separation	300 V AC/DC, 2500 V DC 1 minute
Connection points	WAGO 734-6 six-pole connector
Connecting conductors	max. cross-section 0.75 mm^2
Output status indication	red LED
Application examples	one-bit, two-bit outputs for control or regulation of a connected system, control via derived quantities

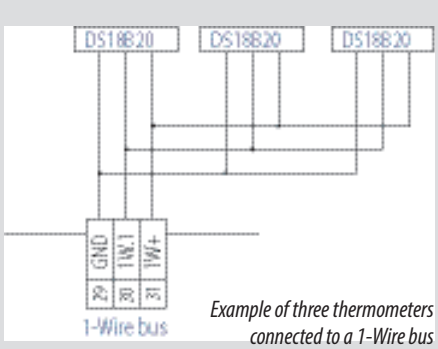
1-Wire Data Bus Parameters

Quantity	2x data bus
Organization	2 x 3, data, power, common minus
Topology	bus or star
Accuracy	depending on sensor

Example of Device with 1-Wire Communication

Manufacturer and model	TECHSYS 1W Thermometer
Temperature measurement range	-55 to 90 °C
Resolution	down to 0.0625 °C
Number of bits	9 to 12
Connector	WAGO 6-pin
Temperature sensor	DS18B20
Dimensions	70 x 70 mm
Colour	grey or black





Example of three thermometers connected to a 1-Wire bus

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