



Terminal for technology monitoring and controlling



Storm-05 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 remote control, monitoring ambient conditions and consumption, data transmission and temperature measurement.

## → Basic Characteristics

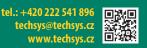
- broad range of inputs and outputs
- easy extension via Storm extension modules
- easy installation of a many 1-Wire bus sensors
- the ability to add special custom functions
- communications interface for easy integration using a number of standard protocols
- local and remote configuration, parameter 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
- GPRS/LTE mobile communication module
- 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
- sending last status in case of power failure

## $\rightarrow$ 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







## 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   |
| Analog inputs                                 | 2 x masurement 0-20mA/10V   |
| Communication interface                       | Ethernet, RS-232, RS-485, wireless<br>by type of used GSM module — LTE/<br>UMTS/EDGE/GPRS |
| Antenna connectors<br>GSM/GPS                 | SMA/F   |
| Build   | 9M width plastic case   |
| Mounting                                      | 35 mm DIN rail  |
| Ingress protection                            | IP 20   |
| Power supply                                  | 48 V DC, possibility to measure own supply voltage  |
| Typical draw                                  | 100 mA  |
| Operating temperature                         | -25 ÷ 70 ℃  |
| Maximum ambient humidity                      | 95 % without condensation   |
| Weight  | max. 250 g  |
| Dimensions (w x h x d)                        | 158 x 90 x 60 mm (9 modules)  |
| EMC emission standards and immunity standards | ČSN EN 61000-6-4, ČSN EN 55024,<br>ČSN EN 55022, ČSN EN 61000-6-2                         |

| Digital Output Parameters |   |
|---------------------------|---|
| Arrangement               | 1 x 4 DO, common point  |
| Switched current          | activation 4 A / 24 V, 3 A / 48 V   |
|                           | deactivation DC 24 V / 4 A, DC 110 V / 0,3 A, DC 48 V / 2A  |
| 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 <sup>2</sup>   |
| Output status indication  | red LED   |
| Application examples      | one-bit, two-bit outputs for control<br>or regulation of a connected<br>system, control via derived<br>quantities |

| 8 + 1 x 8, common minus  V AC V DC 0 V DC 1 minute VAGO 734-10 ten-pole nector   |
|--|
| V DC<br>0 V DC 1 minute<br>VAGO 734-10 ten-pole<br>nector  |
| V DC<br>0 V DC 1 minute<br>VAGO 734-10 ten-pole<br>nector  |
| nector   |
|  |
| x. cross-section 0.75 mm <sup>2</sup>  |
| en LED   |
| a-bit, two-bit inputs for<br>nalling and faults (with/without<br>e), impulse counters, data<br>rage during communication<br>age, calculation of derived<br>ntities |
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| Analog Inputs Parameters |                     |  |
|--------------------------|---------------------|--|
| Quantity                 | 2 x Al              |  |
| Arrangement              | 1 x 4, common minus |  |

| Communication Protocols (depending on interface) |   |  |
|--|---|--|
| RS-232, RS-485                                   | IEC 60870-5-101, Modbus (RTU)               |  |
|  | IEC 60870-5-104, Modbus TCP,<br>DNP 3.0 TCP |  |
| 1-Wire   | 1-Wire                                      |  |

| 1-Wire Data Bus Parameters |                     |  |
|----------------------------|---------------------|--|
| Quantity                   | 2x data bus         |  |
| Arrangement                | 1 x 2, 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 ÷ 90 ℃             |  |
| Resolution                                  | down to 0.0625 °C      |  |
| Number of bits                              | 9 ÷ 12                 |  |
| Connector                                   | WAGO 6-pin             |  |
| Temperature sensor                          | DS18B20                |  |
| Dimensions                                  | 70 x 70 mm             |  |
| Colour                                      | grey or black          |  |