MONITORING SYSTEMS
Sixteen Channel Data Logger

- to measure and process 1 to 16 input signals
- to acquire autonomous time record of measured values
- create alarm states
- to perform other actions based on created alarms
- to monitor on-line measured values and states
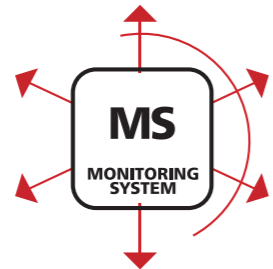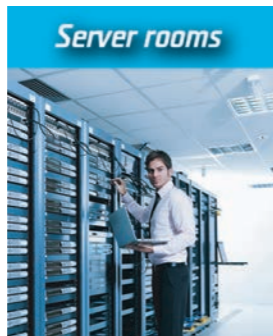
COMET *since 1991*

Application

Comet logger may be used in a wide range of applications, in clean and sterile environment as well as in the contaminated industrial environments. There is also the outdoor solution together with the watertight case. Below is an overview of some common applications.

Recording and online monitoring of temperature and humidity, leaks and smoke in data centers and server rooms.

Building and energy management. Complete temperature, humidity, pressure and CO_2 monitoring. Recording of energy consumption.

Recording of, inter alia, pulse signals, pressures, temperatures, voltages and flows.

Building management

Server rooms

Industry

MS
MONITORING SYSTEM

Stores

Research and Development

Healthcare and Laboratory

Food industry and supermarkets. Registration and monitoring critical temperature with respect to HACCP regulations.

The registration and monitoring of processes, the registration of various parameters in test facilities.

Registration of temperatures, carbon dioxide (CO_2) and other critical parameters in the context of GLP or GMP regulations.

Main features

Measurement and monitoring

Current • voltage • resistence • temperature probes Pt and Ni • thermocouple •termistor • binary signal • pulse counter • frequency • RS485 •

Data loggers are designed for measurement, evaluation and consequent processingof input electrical signals, characterized by relatively slow changes (>1 second). They, together with proper transmitters and transducers, are suitable for monitoring physical values.

Recording

Non-cyclic record mode • Cyclic record mode (FIFO) • Recording continuously • Recording at the alarm time

Recorded values are stored to a non volatile electronic memory and may be supplemented by the accompanying text - processes. Various options for data recording can be set up.

Various options for data recording

In addition to continuous recording mode with a constant interval can also enjoy a variety of other options. You can record data with its own interval only when certain conditions are valid, which may depend on measured values, time or direct user intervention. For example, you can control recording via an external contact or it is possible to set faster sampling mode during alarm conditions.

Processes

Process is the name of action recorded by data logger in time. User of data logger can enter from its keyboard to each input channel (except binary inputs) different previously preset names of processes and such way to distinguish in record, which action was performed at that time.

In case of power failure

In the event of a power failure, the backed up datalogger will continue to measure. Recorded data contains date and time of power failure. If the data logger is connected to GSM modem, the operator is immediately aware of difficulties.

Alarm indication

Integrated buzzer • External siren or lights • Email messages • SMS texts via connected GPRS modem or router • Android and iOS notifications

Relay on

Monitoring System MS activates selected relays (integrated relay ALARM OUT or external relays module) depending on alarm states.You can combine up to 16 switching external relay depending on arisen conditions. One of these conditions can be controlled via SMS messages.
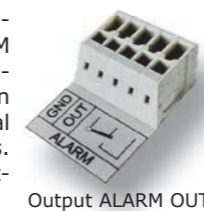
Output ALARM OUT
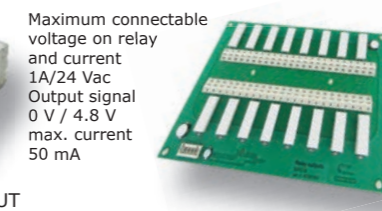
Maximum connectable voltage on relay and current 1A/24 Vac Output signal 0 V / 4.8 V max. current 50 mA

Relay module contains 16 mains relays 250 V / 8 A. For more details see page 17.

Communication through GSM modem, GPRS / EDGE router

Modems can be used to set up a Monitoring System MS, reading the recorded data, reading the current values and to communicate via SMS messages. The offered modems have been thoroughly tested to ensure maximum reliability.

Alerts via SMS texts

All data loggers are equipped with RS232 interface. GSM modem (GPRS router) can be connected to that port for transmitting alarm SMS texts. Up to four phone numbers can be set. You can also read the current values through text messages.

Email messages

Because of Ethernet interface you can expand communication possibilities of Monitoring System MS. Then alarm emails are sent directly to your email inbox.You can also read the current data via web browser.
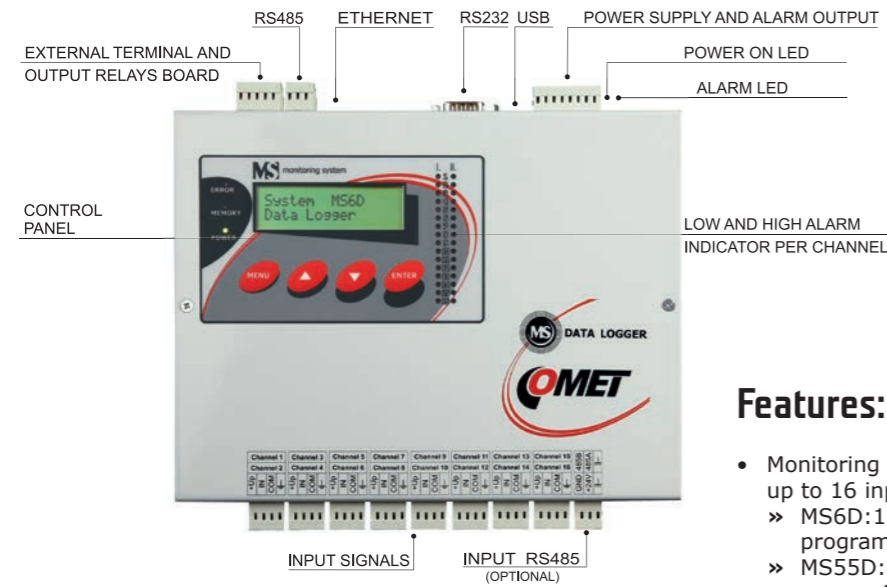
Android and iOS notifications

The COMET Cloud Lite application can be installed on a mobile phone, which receives information from the COMET Cloud about alarm states of measuring devices. You will be informed about the critical conditions of the monitored places on the notification bar of the mobile phone. More about the application on page 12.

COMET Cloud
Measured data where you need.

Monitoring Systems MS - models and variations

The table below shows the characteristic differences between the systems. The Monitoring System MS55D uses hardware modules, while MS6D, MS6R or MS6-Rack is equipped with 16 universal, software configurable inputs.

RS485 ETHERNET RS232 USB POWER SUPPLY AND ALARM OUTPUT

EXTERNAL TERMINAL AND
OUTPUT RELAYS BOARD

POWER ON LED

ALARM LED

CONTROL
PANEL

LOW AND HIGH ALARM
INDICATOR PER CHANNEL

INPUT SIGNALS   INPUT RS485
(OPTIONAL)

Features:

- Monitoring System MS contains up to 16 inputs
  - » MS6D:16 universal software programmable inputs, see page 8
  - » MS55D: modular 1 - 16 inputs, wide range of moduls on the page 9
- Memory for 480 000 readings, automatic data download is possible
- Logging interval from 1 second to 24 hours, for each channel individually selectable
- Various recording options
- High system accuracy
- A virtual (calculated) channels on unused inputs
- Indication of alarms states

MS6R - For desktop use

MS6-Rack - For mounting to 19" rack

MS6D and its variations

Each Monitoring System contains 16 software configurable inputs. See them on the page 8.

Bottom view (sensor connections)

Power voltage 12 Vdc / 24 V dc switch
to power connected sensors

MS55D

The user can select the hardware modules to be fitted into the Monitoring System MS. See the page 9.

Bottom view (sensor connections)

Top view (communication interface)

ETHERNET   RS232   USB   GND OUT ALARM GND +24V POWER ALARM
Ext. Terminal / Relays   RS485

RS232, RS485, USB and ethernet outputs.

MS6D	main differences	MS55D
16 software programmable inputs	inputs	1 - 16 hardware input modules
20 mA DC	maximum measured DC current	5 A DC
10 V DC	maximum measured DC voltage	75 V DC
18 mV DC	most sensitive measuring range of dc voltage	100 mV DC
-	maximum measured AC current	5 A AC
-	maximum measured AC voltage	50 V AC
-	input for measurement of frequency	0 to 5 kHz

5

Common connectivity optionsnnectivity options

Monitoring System MS may be configured for almost any desired measurement application. Sensors can be wired to datalogger in star-like connection as well as in serial. Combination of both is also possible. The Monitoring System MS is characterized by a wide range of communication interfaces such as the RS232, RS485, USB, Ethernet and GSM modem. Thanks to Wi-Fi routers several Monitoring System MS can be wirelessly connected to a network.
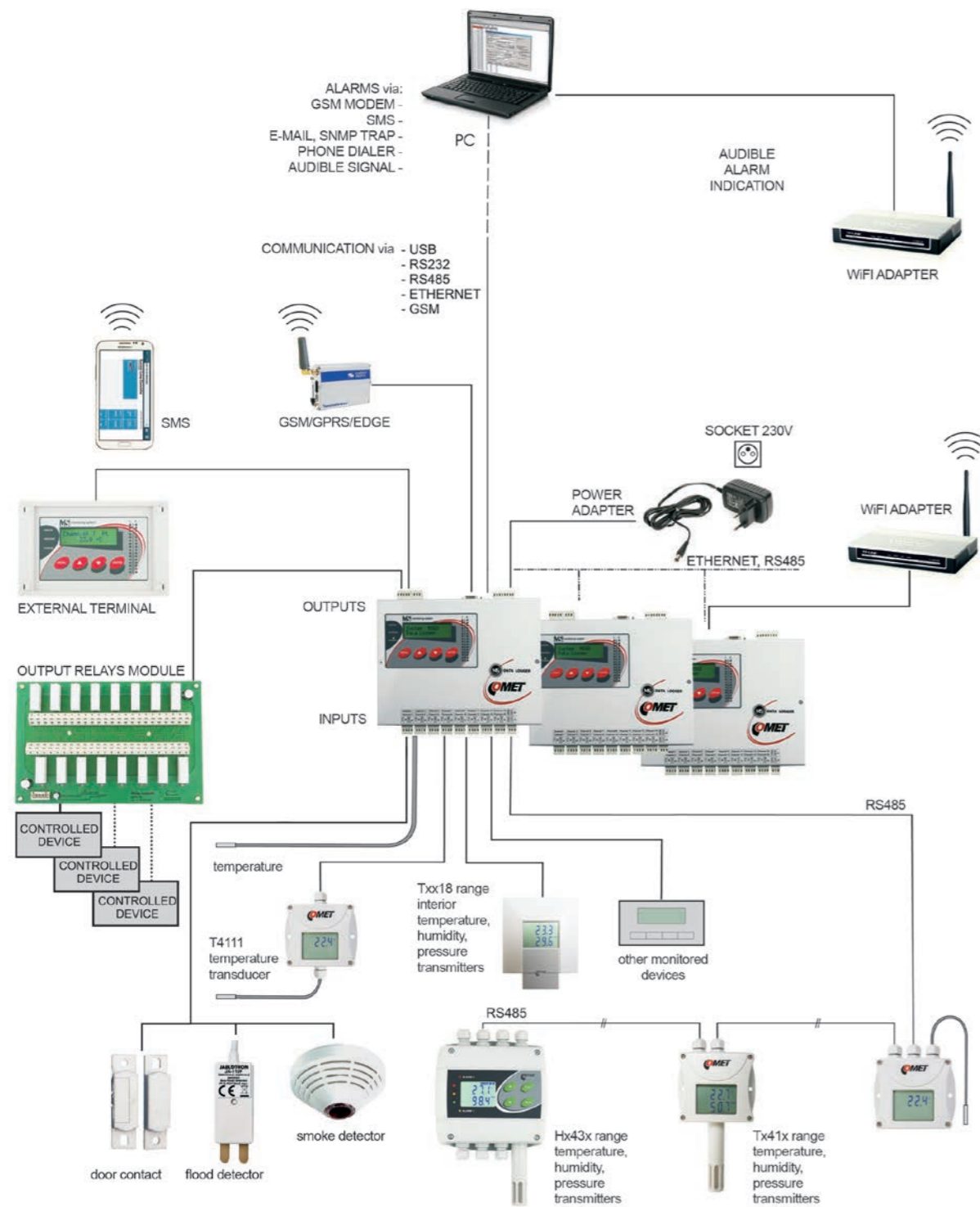

If you need more than 16 input channelsons

In the event that the number of 16 channels is insufficient, then it is possible to connect several units among themselves via RS485 or via the Ethernet network. A unique RS485 or IP address is assigned to each unit. However the distance between data loggers MS connected together via RS485 should not exceed 1200 meters.


RS485/USB   **RS485/RS232**

more on the page 14

RS485/Ethernet
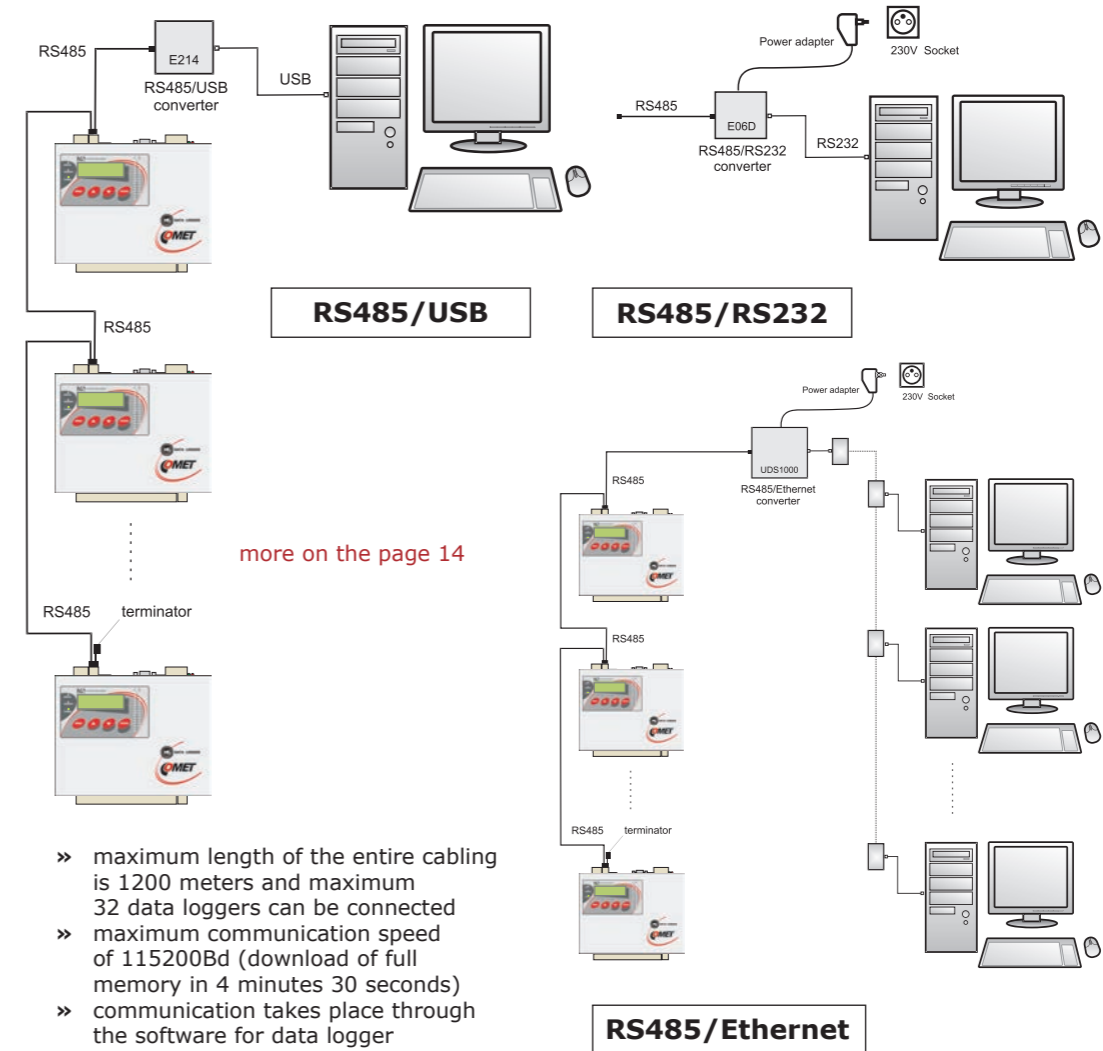
» maximum length of the entire cabling is 1200 meters and maximum 32 data loggers can be connected
» maximum communication speed of 115200Bd (download of full memory in 4 minutes 30 seconds)
» communication takes place through the software for data logger
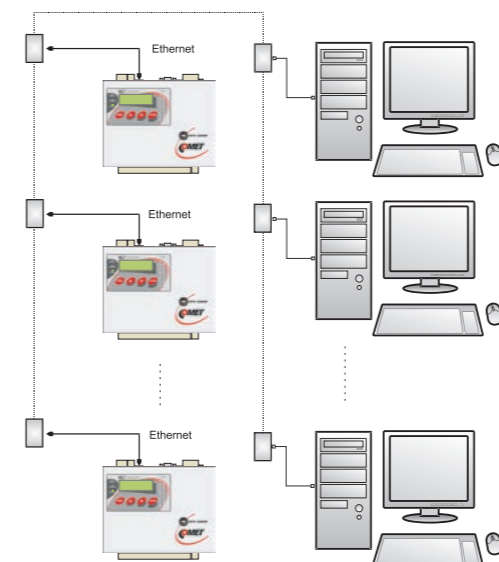
Ethernet

» download of memory in 2 minutes 30 seconds (depends on the network throughput)
» communication and sending alarm messages by means of several network protocols is enabled (web, SNMP, SMTP, SysLog, SOAP, ModBus)
» each data logger has its IP address (support DHCP)

SOAP   SNMP   WWW   Syslog   COMET DATABASE SOFTWARE

XML   Trap   e-mail   Modbus   COMET CLOUD
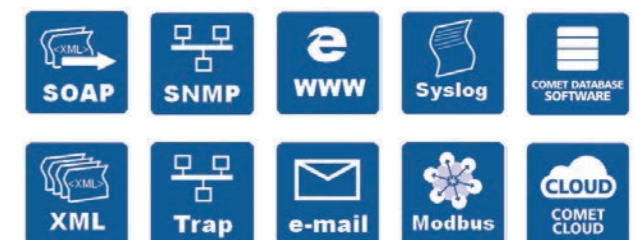
Parameters of configurable inputs MS6D

Each Monitoring System contains 16 software configurable inputs from user PC. Also signals from sensors working on RS485 bus with ModBus or Advantech protocol can be recorded. RS485 input is available as optional accessory.
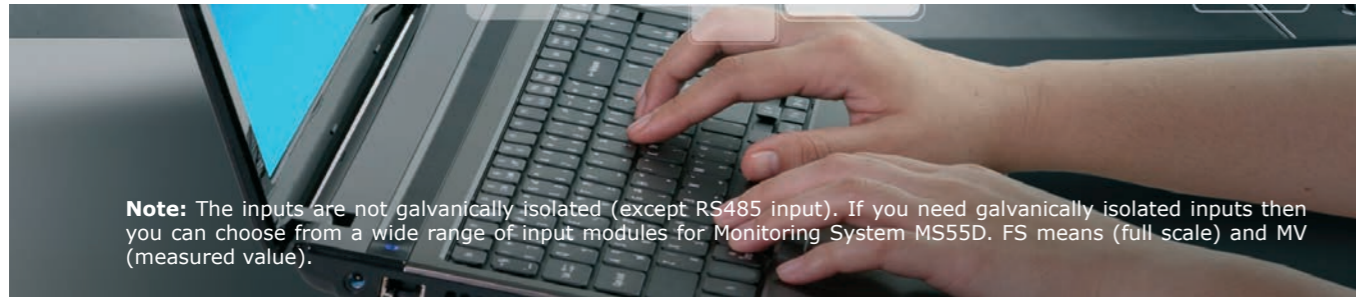
Note: The inputs are not galvanically isolated (except RS485 input). If you need galvanically isolated inputs then you can choose from a wide range of input modules for Monitoring System MS55D. FS means (full scale) and MV (measured value).

Measured values		Range	Accuracy	Note
current	DC	4 to 20 mA	±0.1% FS (±0.02 mA)	it is possible to connect pasive sensors (powered by monitoring system) or active sensor with its own power supply. Input resistance about 110 Ohms.
voltage	DC	-10 to+10 V	±0.1% FS (±10 mV)	input resistance about 10 MOhms
		-1 to +1 V	±0.1% FS (±1 mV)	
		-100 to +100 mV	±0.1% FS (±100 µV)	
		-18 to +18 mV	±0,1% FS (±18 µV)	
resistance	two-wire resistance measurement	0 to 300 Ohms	±0.1% FS (±0.3 Ohms)	measuring current approximately 0.8 mA @ 50 ms pulse
		0 to 3000 Ohms	±0.1% FS (±3 Ohms)	measuring voltage approximately 0.5 mA @ 50 ms pulse
		0 to 10000 Ohms	±0.1% FS (±10 Ohms)	measuring current approximately 0.1 mA @ 50 ms pulse
temperature probes Pt and Ni	Ni1000	-50 to +250 °C	±0.2 °C (-50 to 100 °C)	Ni1000/6180 ppm, two-wire connection
			±0.2 % MV (100 to 250 °C)	measuring current approximately 0.5 mA @ 50 ms pulse
	Pt100	-200 to +600 °C	±0.2 °C (-200 to+100 °C)	Pt100/3850 ppm, two-wire connection
			±0.2 % MV (+100 to +600 °C)	measuring current approximately 0.8 mA @ 50 ms pulse
	Pt1000	-200 to +600 °C	±0.2 °C (-200 to+100 °C)	Pt1000/3850 ppm, two-wire connection
			±0.2 % MV (+100 to +600 °C)	measuring current about 0.5 mA @ 50 ms pulse
thermocouple	K (NiCr-Ni)	-200 to 1300 °C	±(0.3 % MV +1.5 °C) MS6D only	linearized, with cold junction compensation, datalogger must be placed in recommendend working position
	T (Cu-CuNi)	-200 to 400 °C		
	J (Fe-Co)	-200 to 750 °C		
	S (Pt10 % Rh-Pt)	0 to 1700 °C		
	N (NiCrSi-NiSiMg)	-200 to 1300 °C		
	B (Pt30 % Rh-Pt)	100 to 1800 °C	±(0.3 % MV +1.0 °C) in range 300 to 1800 °C	linearized, without cold junction compensation
thermistor	NTC with selectable formula	up to maximum thermistor resistance 11000 Ohms	according to the used resistance range (see measurement of resistance)	the same characteristics for all connected thermistors
				default settings: R25=2252 Ohms, R80 = 282.7 Ohms
binary signal	potential-less contact		binary signal	input voltage for state „L" (IN-COM) < 0.8 V
	open collector			input voltage for state „H" (IN-COM) > 2 V
	voltage levels			resistance of closed contact for state „L" (IN-COM) < 1 kOhms
				resistance of open contact for state „H" (IN-COM) > 10 kOhms"
				minimum duration for sensing of change: 200 ms
RS485	input for serial signal RS485		on request	input serves for reading from devices supporting protocol ModBus RTU or Advantech
				connected to terminals next to terminals for channel 15 and 16
				input can work with 16 devices
				galvanically isolated

Parameters of inputs MS55D

The user can select the hardware modules to be fitted into the Monitoring System MS. The modular design gives you the freedom to start with several input modules and to expand the system later on.

Measured values		Module types	Range	Accuracy	Notes
current	DC	A0	4 to 20 mA	±0.1 % FS	with source approximately 21 V for two-wire transducers with current loop (e.g. temperature and humidity transducers COMET).
		A1*	4 to 20 mA		only galvanic not isolated
		B0*	0 to 20mA		for passive sensing of current, Rin = 14 Ohms
		B1*	0 to 1 A		
		B2*	0 to 5 A		input resistance Rin = 0.04 Ohms
	AC	C0	0 to 20 mA	±1 % FS	galvanic isolated, sinusoidal signal at a frequency of 50 Hz input resistance Rin by type 0.04 Ohm to 14 Ohms
		C1	0 to 1 A	±1 % FS	
		C2	0 to 5 A		
voltage	DC	D0*	0 to 100 mV	±0.1 % FS	input resistance Rin by a 900 kOhms to 10 Mohms
		D1*	0 to 1 V		
		D2*	0 to 10 V		
		D4*	0 to 75 V		
		D5*	-10 to +10 V	±0.1 % FS (± 20 mV)	
	AC	E0	0 to 100 mV	±1 % FS	only galvanic isolated, sinusoidal signal at a frequency of 50 Hz input resistance Rin by type 700 kOhms to 10 Mohms
		E1	0 to 1 V		
		E2	0 to 10 V		
		E4	0 to 50 V		
resistance		F*	must be specified	±0.1 % FS	two-wire connection
temperature probes Pt and Ni	Ni1000	J*	-50 to +250 °C	±0.2 °C (-50 to 100 °C)	Ni1000/6180 ppm, two-wire connection
				±0.2 % MV (100 to 250 °C)	measuring current of approximately 0.25 mA continuously
	Pt100	K*	-140 to +600 °C	±0.2 °C (-140 to +100 °C)	Pt100/3850 ppm, two-wire connection
				±0.2 % MV (+100 to +600 °C)	measuring current of approximately 2 mA continuously
	Pt1000	K1*	-140 to +600 °C	±0.2 °C (-140 to +100 °C)	Pt1000/3850 ppm, two-wire connection
				±0.2 % MV (+100 to +600 °C)	measuring current of approximately 0.2 mA continuously
	Pt1000	K3	-10 to +50 °C	±0.06 °C	Pt1000/3850 ppm, two-wire connection
					measuring current of approximately 0.2 mA continuously
thermocouple	K (NiCr-Ni)	N*	-70 to +1300 °C	±0.3 % MV + 1.5 °C	linearized, cold junction compensation, datalogger must be placed in recommendend working position
	T (Cu-CuNi)	T*	-200 to +400 °C		
	J (Fe-Co)	O*	-200 to 750 °C		
	S (Pt10 %Rh-Pt)	P*	0 to 1700 °C	±0.3 % MV +1.5 °C (200 to 1700 °C)	
	B (Pt30 %Rh-Pt)	Q*	100 to 1800 °C	±0.3 % MV+1.0 °C (300 to 1800 °C)	linearized, without cold junction compensation
binary signal	potential-less contact	S*	binary signal		maximum resistance of closed contact is 1000 Ohms
					minimum duration for recording is 200 ms
	voltage, galvanically isolated	S1	binary signal		voltage for „H" state is 3 V to 30 V DC @ 9 mA max
					minimum duration for recording: 200 ms
					galvanically isolated
pulse counter	potential-less contact, galvanically isolated	CTU	31 bits, 5 kHz max.		voltage change of the counter state is 3 V to 24 V DC
					backup power, filter bouncing
					galvanically isolated
	potential-less contact, open connector	CTK	31 bits, 5 kHz max.		maximum resistance of closed contact is 10 kOhms
					minimum open contact resistance is 250 kOhms
					backup power, filter bouncing
frequency	input voltage signal measurement, galvanically isolated	FU	0 to 5 kHz	±(0.2 % MV + 1 Hz)	input voltage for „H": 3 V to 24 Vdc @ 7 mA
			resolution 1 Hz		minimum duration of input pulse: 30 µs
					galvanically isolated
	measurement frequency switching contact, galvanically not isolated	FK	0 to 5 kHz	±(0.2 % MV + 1 Hz)	maximum resistance of closed contact is 10 kOhms
			resolution 1 Hz		minimum open contact resistance is 250 kOhms
					minimum duration of input pulse: 30 µs
RS485	input for serial signal RS485	RP	digital transmission		input supports Modbus RTU or Advantech
					connected devices must have the same communication parameters
					input can work with up to 16 devices
					galvanic isolated, MS can be equiped wit multiple RP modules

Analytical software
Presentation of measured and online data • data export • device configuration

Data presentation

Clear presentation of recorded data

For a clear reading and processing the collected data is available user-friendly software which consists two parts - communication and analysis that allows you to work with spreadsheets and graphs.

Software interface is intuitive and easy to use thanks to software wizard. It ensures easy operation even for beginner who starts working with Monitoring System MS. Software is compatible with Windows®.
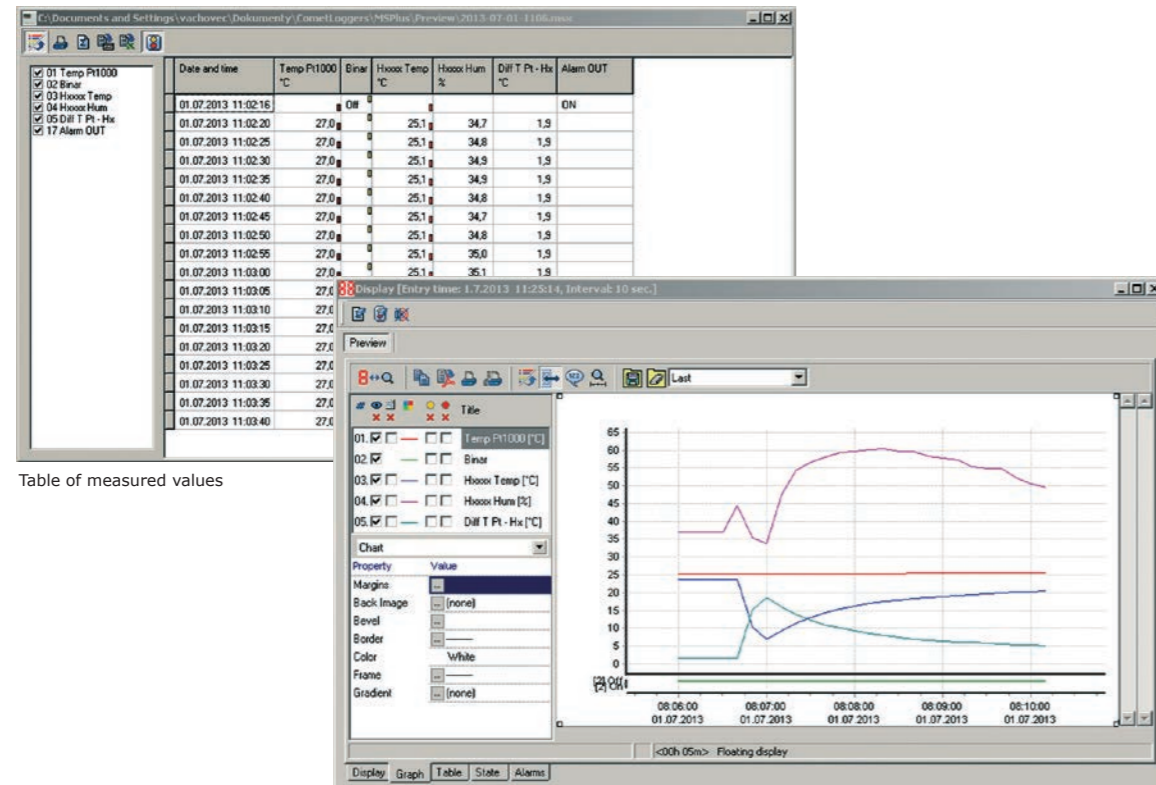
Table of measured values

chart of readings

Real time monitoring with software

Monitoring System MS allows to monitor all monitored sites in real time. Charts, tables, alarms can be displayed in „DISPLAY" mode. This mode can be shared on multiple computers.
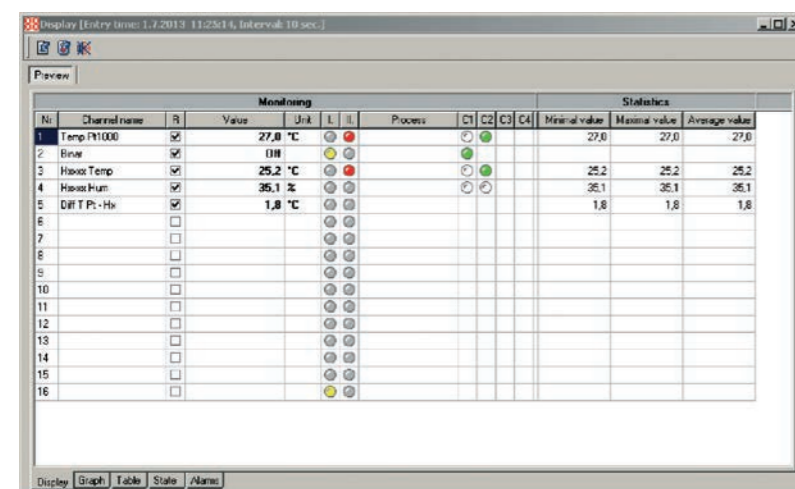
display mode

Data processing via web interface

Current data can be displayed in web browser using HTML pages. Process of measuring can be simultaneously monitored by several user groups (techniques, management, etc.). Device must be connected to the Internet/Intranet.
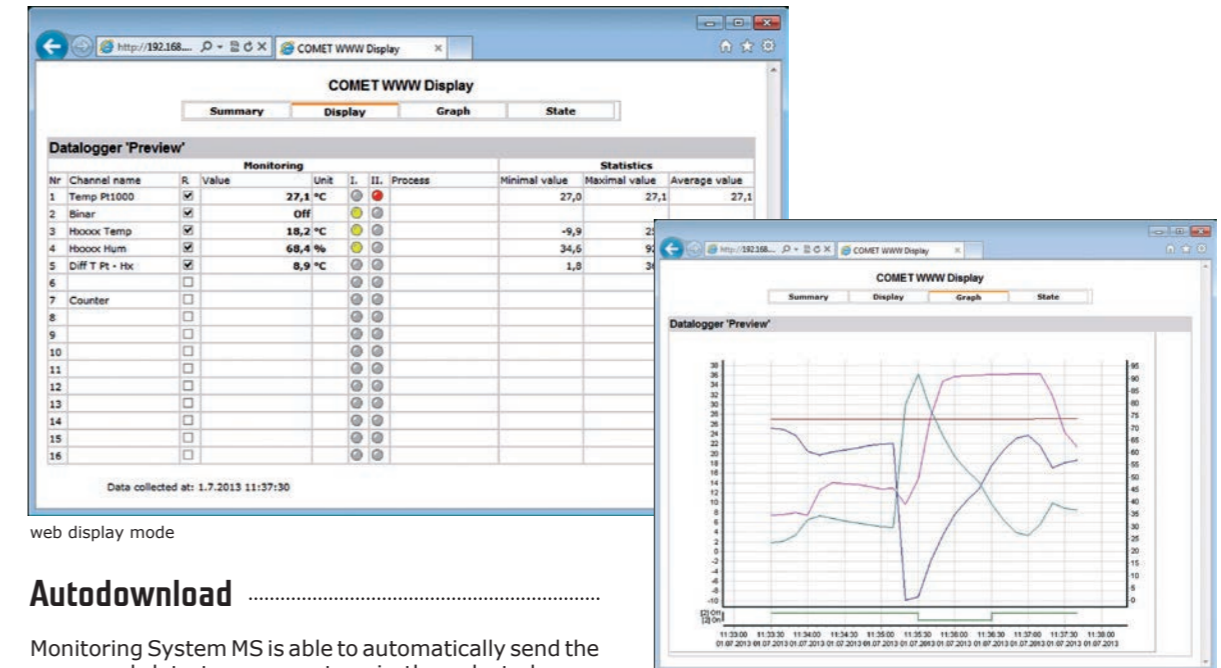
web display mode

data displayed by web browser

Autodownload

Monitoring System MS is able to automatically send the measured data to a computer via the selected communication interface - USB, RS485, Ethernet or GSM modem connected to RS232.

Frequency of automatic reading can be set. This feature is available even if more MS Monitoring System is connected together.
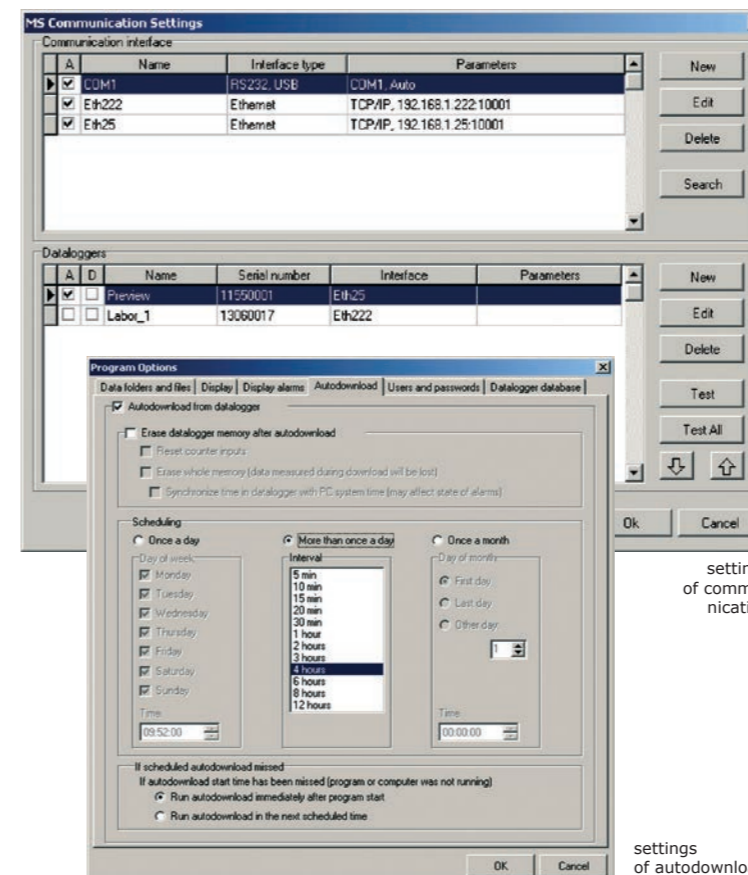
settings of communication

settings of autodownload

Statistic

Maximal or minimal value, average, deviation, number of stored values, all these can be easily and clearly shown in table mode.

Export

Easy export of measured data to XLS or DBF files. Export of measured data can be fully automatized. Software allows communication with MS Monitoring System via RS232, RS485, USB, via GSM modem or via Ethernet.

# MS55/MS6 Configuration

Measured input value

Select the measured value according to the connected hardware, set the measuring range and units (type MS55D is limited only to fitted input modules). Additional settings are available for some input types (eg. counters, RS485 input, etc.).
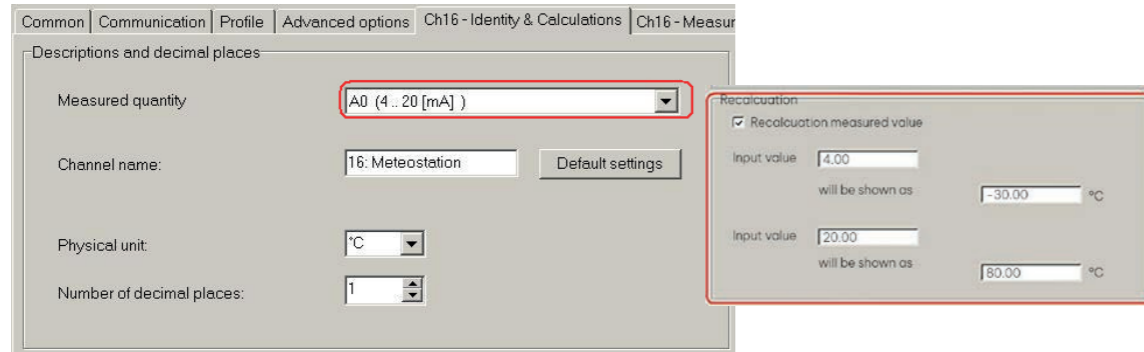
Conditions settings example

Example conditions derived from the measured values

The condition is valid, if input value exceeds 170 °C and this state persist at least 30 seconds. Condition expire immediately if the temperature drops below 168 °C.
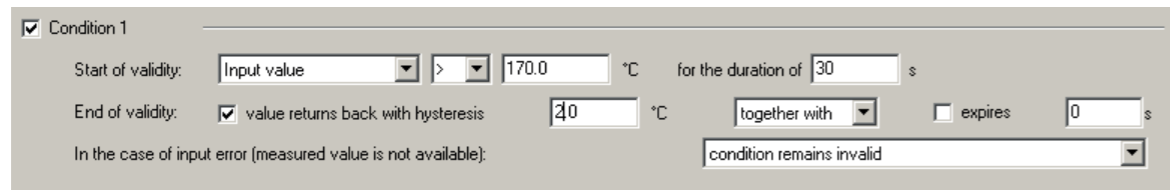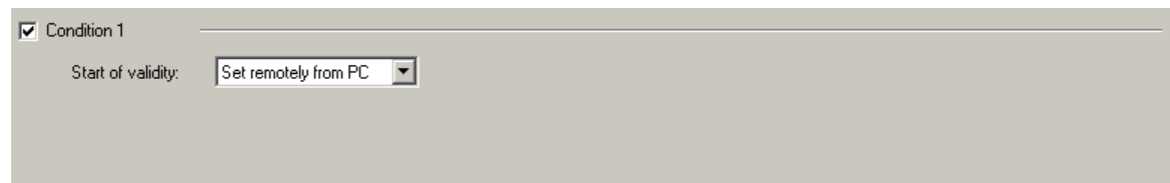
Example of condition derived from the time

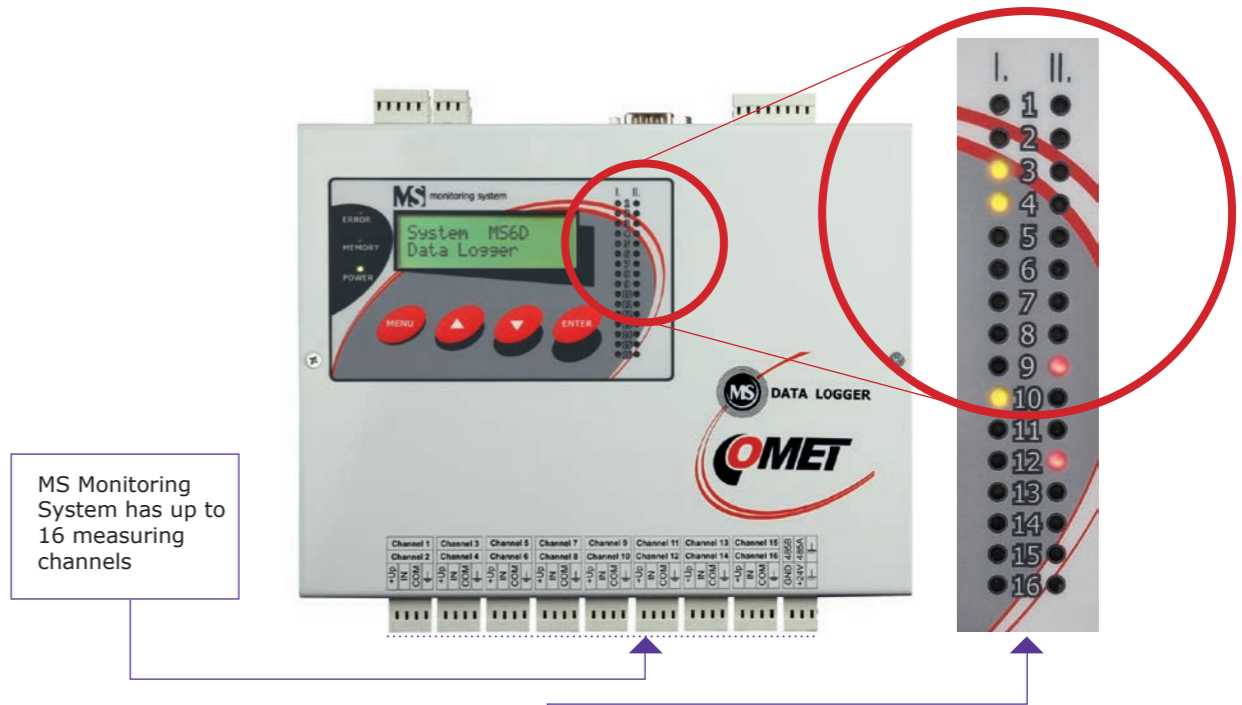The condition is valid, if the current date and time fulfill selected criteria.
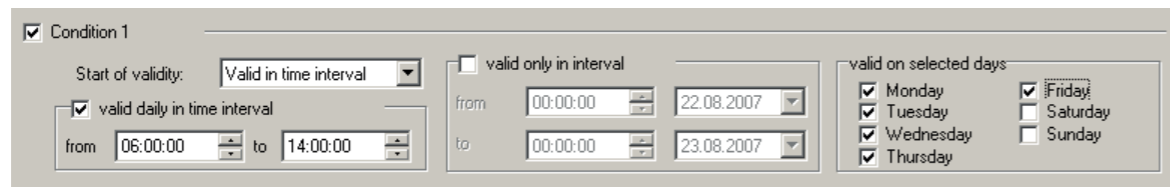
The condition can be controlled using a personal computer, web browser, or SMS. It can be protected by a password.
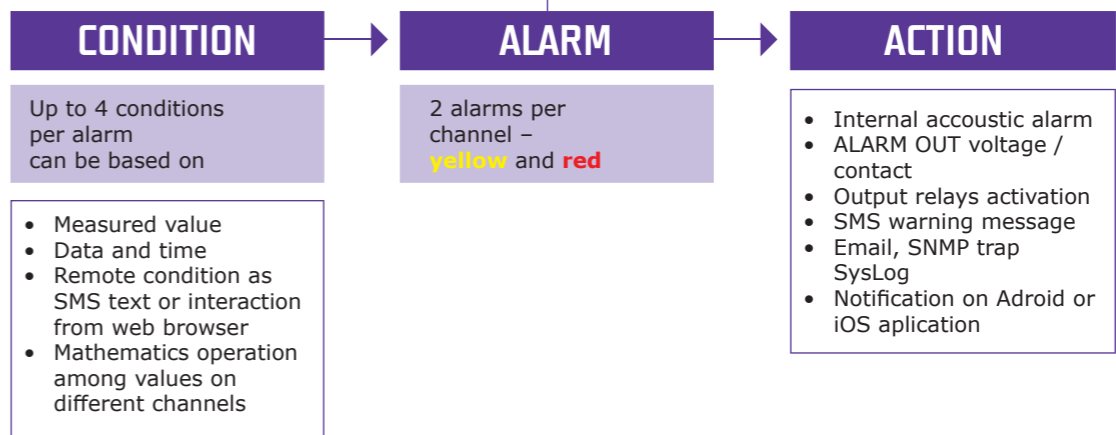
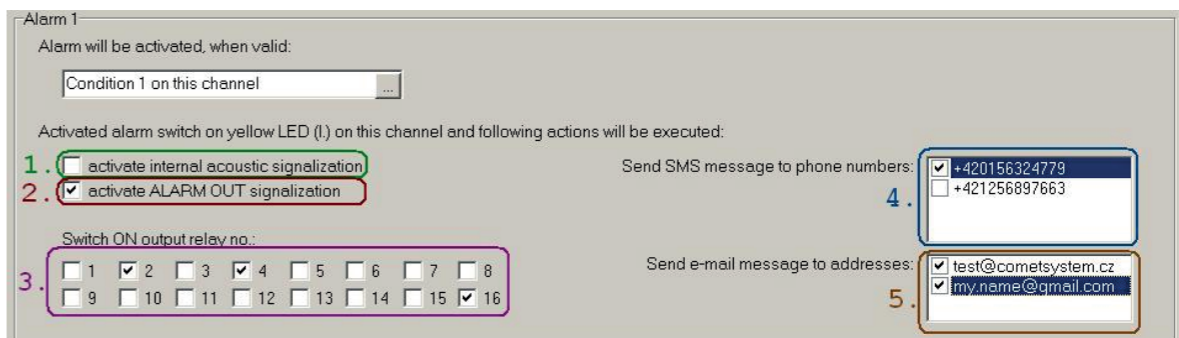## Alarm creation on input channels

16-channel data logger with 2 alarms per channel. Each alarm can be triggered by up to 4 conditions. After the alarm is active, actions can follow.

MS Monitoring System has up to 16 measuring channels

CONDITION	ALARM	ACTION
Up to 4 conditions per alarm can be based on	2 alarms per channel – **yellow** and **red**	• Internal accoustic alarm • ALARM OUT voltage / contact • Output relays activation • SMS warning message • Email, SNMP trap SysLog • Notification on Adroid or iOS aplication
• Measured value • Data and time • Remote condition as SMS text or interaction from web browser • Mathematics operation among values on different channels		

Actions in case of alarm

COMET Cloud
Measured data where you need

COMET CLOUD

COMET Cloud is the internet storage of data measured by COMET sensors. The data is accessible in the internet and displayed in an internet browser. Every user has the access to his account COMET Cloud protected by password. COMET Cloud enables to add sensors, creates organisational structures such sensor groups and user groups. The different rights can be set up for displaying and administration for each user.

| WIFISENSOR | MONITORING SYSTEM | sigfox | WEB SENSORS | DATALOGGER |

Web browser for data displaying

mobile application

COMET Cloud allows you to:

- display of measured values in the form of a table and graph
- management and organization
  - device
  - measured points
  - users and their access rights
- email alert when
  - alarm limits exceeded with the possibility to define recipients according to the level of exceedance
  - in case of failure (low battery, loss of radio connection, measurement error)
- device setup from COMET Cloud (only once a day)

Android
mobile application

iOS
mobile application

Data storage for all COMET measuring instruments

COMET DATABASE SOFTWARE

For users of COMET products exists a solution for data collection to one central place. It is software solution based on MS SQL and installed on customer's server or personal computer.

| DATALOGGER | MULTILOGGER | ANALOG DIGITAL SENSORS | MONITORING SYSTEM | WEB SENSORS | WIFISENSOR |

- **unlimited space for data**
- **management and organization of**
  - equipments
  - measured points
  - users and their access rights
- **email alarming when**
  - exceeding alarm limits with the option define recipients according to the level of exceedance
  - a fault occurs (connection, measurement error)
- **easy report creating**
- **device setup from COMET Cloud (only once a day)**

▶ Tutorials
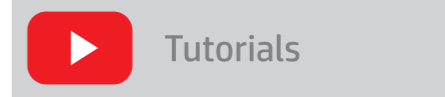
How to create account
How to add device
How to set role – administrator/user
How to create measured place

Try GUEST access at
https://cometsystem.cloud/device/list

Database software:

- 24 - hour supervision
- unlimited data storage
- simple and clear access to your measured values
- single repository for all devices COMET
- alarm SMS texts and emails
- acoustic and visual signalization of alarms

13

Optional accessories for Monitoring System MS

Sensors / transmitters / probes

COMET System produces wide range of sensors which are compatible with Monitoring System MS. There exist two ways of connection and their combination. Analog Sensors with 4-20 mA, 0-10 V output are wired to datalogger in star-like connection and digital sensors with RS485 output are linked in serial.

Analog sensors 4-20 mA, 0-10 V

Interior transmitter of temperature and CO_2		
Output	4-20 mA	0-10 V
Type	T8148	T8248

Other types of industrial and interiorsensors, including regulators and probes can be found on our website www.cometsystem.com

Temperature and humidty transmitter		
Output	4-20 mA	0-10 V
Type	T3110	T0210

Temperature and humidty transmitter with external probe		
Output	4-20 mA	0-10 V
Type	T3111	T0211
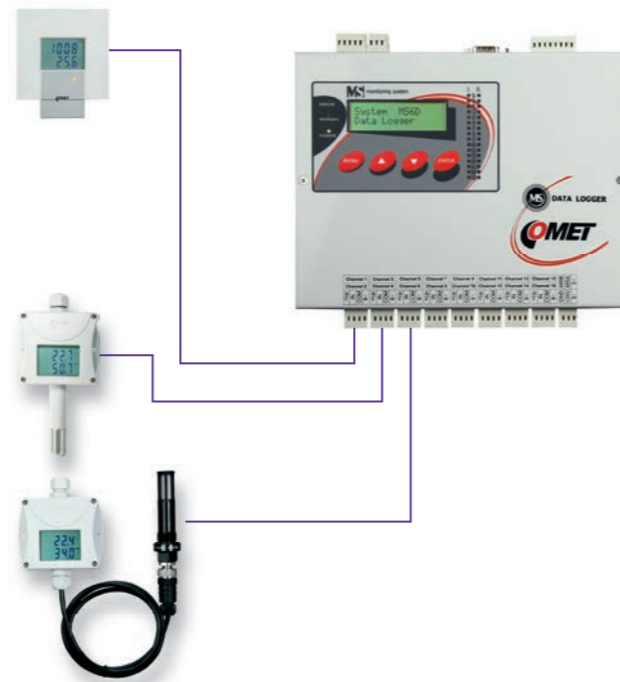
Digital sensors and regulators with RS485 output

Interior transmitter of temperature, humidity and CO_2	
Output	RS485
Type	T7418

Temperature transmitter for Pt1000 probes	
Output	RS485
Type	T4411

Temperature and humidity regulator with 0/I state inputs		
Output	RS485	2x relay
Type	H3430	

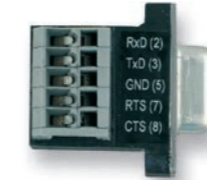| Temperature, humidity and CO_2 regulator		
Output	RS485	2x relay
Type	H6420	
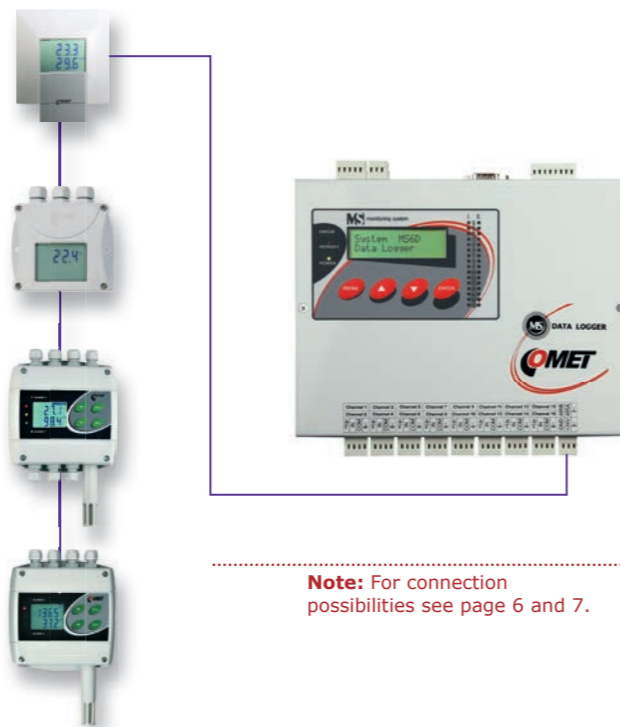
Note: For connection possibilities see page 6 and 7.

Communication, convertors

RS485IN - Galvanically isolated input for serial RS485 signal (for MS6D).

Input is designed for reading from devices supporting protocol ModBus RTU or Advantech. RS485IN port can be equipped additionaly.

MP030 - RS232 connector with terminals

RS232 connector with terminals for RS232 interface connection by means of terminals, not by D-Sub connector.

MP021 - Converter RS232/RS485

Converter RS485/RS232 for serial port COMx at the PC side, including ac/dc adapter and terminator T485. Using this converter is suitable in the case when the Monitoring System MS is away from the computer more than 10 meters.

MP022 - Converter USB/RS485

Converter for USB port at the PC side, including terminator T485. Powered from computer USB interface. Using this converter is suitable in the case when the Monitoring System MS is away from the computer more than 10 meters.

M1061 - RP input module for datalogger MS55D for serial signal RS485

It is necessary to connect to one RP module only devices communicating with the same communication speed and the same communication protocol! Data logger can contain several RP modules. Protocols ModBus RTU or Advantech are supported.
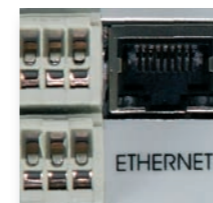
MP042 - Ethernet communication port

Ethernet interface expands communication possibilities of Monitoring System MS. Communication via: SNMP, SOAP, www pages, Modbus TCP. In case of limits exceeding alarm is activated and warning email or SNMP trap are sent to specified addresses.
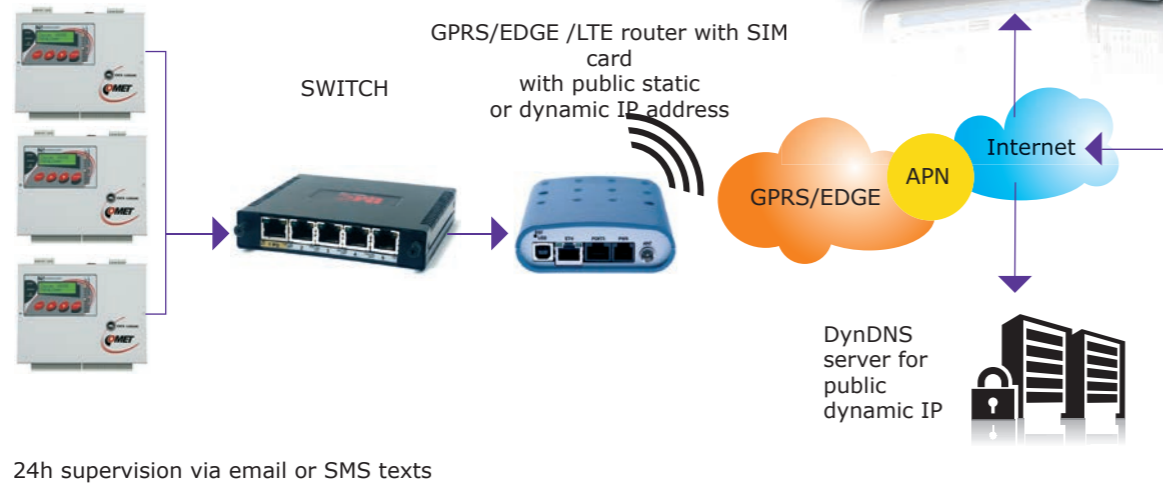
MP023 – Converter RS485 to Ethernet

Designed for several data loggers connected via RS485 network for connection to the computer via Ethernet. Including ac/dc adapter and terminator T485.

GSM/Wi-Fi communication

GPRS/EDGE/LTE router

Router is intended for MS6D, MS6R, MS6-Rack and MS55D which are equipped with an Ethernet interface MP042.

SWITCH

GPRS/EDGE /LTE router with SIM card
with public static
or dynamic IP address

Internet

GPRS/EDGE   APN

DynDNS server for public dynamic IP

24h supervision via email or SMS texts

IP address of router is assigned by your mobile provider and it is related to your SIM card. Address may be private, public dynamic or public static. IP addres is public if router is accessed by it directly from internet. Static IP is fixed allocated to SIM by provider. Dynamic IP address is acquired from provider during connection of router to the GPRS/EDGE network. Dynamic IP is variabled. Not every provider supports a public IP! Open VPN tunnel with a private IP address can be used.

Software COMET Database offers more tools for data management and alerts.

KIT-GSM-M

This modem is suitable for users who need to acquire alarm SMS texts from one Monitoring System MS. Up to four phone numbers can be set up.

KIT-GSM-W

The hardware of this kit is identical to KIT-GSM-M. However it is preconfigured for use with the software COMET Database. When you connect modem with PC where COMET Database is installed you get a tool for 24-hour surveillance of critical events via SMS texts (see picture above). Unlimited phone numbers can be set up.

Wi-Fi adapter - TP-LINK-TL
Wifi adapter for wireless connection of data logger to Ethernet network.

Switching and controlling
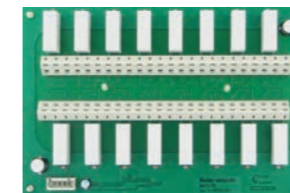
MP018
Relay module contains 16 mains relays 250 V / 8 A with switching-over contacts. Each relay can be controlled based on alarm creation at different input channels accordingly to setting of user program. It is necessary to buy connection cable MP017. We also offer brackets on DIN rail MP019 and MP20.

MP050
Relays module is designed for mounting into MS6-Rack. It contains 16 mains relays maximum voltage 50 V AC / 75 V DC with switching-over contacts. A connection cable and blind plug are supplied.

Power and backup adapters

A1940
Universal ac/dc adapter 24 V DC /1 A for connection to terminals, switch-mode.

A1759
Universal linear ac/dc adapter 230 V-50 Hz / 21 V DC /1 A - for connection to terminals.

A5948
Power supply 230 V - 50 Hz / 24 V DC / 2,5 A for DIN rail 35mm, dual terminals 24 V DC, switch-mode, including DIN rail of 100mm length.

A6963
Backup power supply A6963 with battery A7963 - model
MINI-BAT / 24 DC / 1.3 AH. Power supply is designed for mounting to 35 mm DIN.

Other accessories for installation and mounting can be found on our website.

A6966
It is necessary to buy two pieces of batteries A7966 12 V / 7 Ah for this backup power supply. Not suitable for installation into closed switchboard.

A solution for extreme conditions – up to IP65

MP048
MS6D datalogger in IP54 protection case with connected terminal at the lid.

MP049
MS55D datalogger in IP54 protection case with connected terminal at the lid.

MP033
Case with IP65 protection with wall holders and MS data logger holders - no cutout in the lid.

Note: Dimensions of all cases is 270 x 570 x 140 mm. The relay board MP018 can be placed inside.

External terminal

MP016
Terminal with dual line alphanumerical LCD and control buttons, audio alarm indication and 32 alarm LEDs - for panel mounting or mounting to a case lid. Identical functions as built-in terminal of MS data logger.
Maximum cable length to data logger 50 meters. It is necessary to order the MP017 connection cable to data logger (length of cable 60 centimeters, 5 meters, 10 meters).

MP032
Built in a IP54 protection case, including 2meters cable with covered terminals.

MONITORING SYSTEMS
Sixteen Channel Data Logger
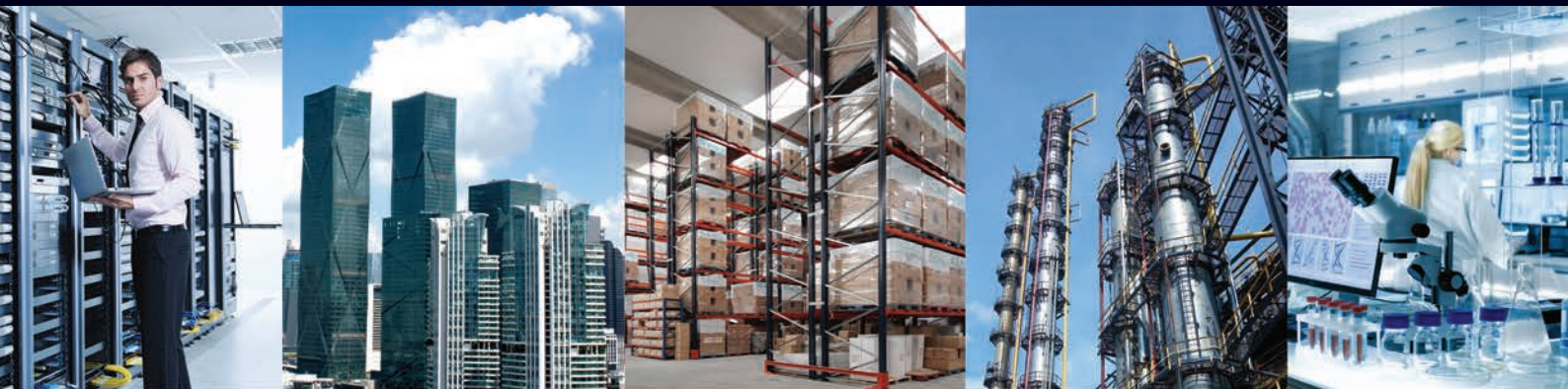
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