Data Logging System
CAMRegis

AKO — we make it easy

Features

Loggers of the CAMRegis series are high-quality data loggers tailor-made for the legal regulations with a large display, integrated real-time clock and alarm function. The units are available with 5 or 10 logging channels.

Besides temperatures, further analogue (e.g. humidity) as well as digital signals can also be stored. With the help of the digital inputs one could, for example, document the opening of the cold room door. Depending on the recording interval, the measured data are saved for up to a year and then gradually overwritten.

In case of voltage interruption, the internal battery ensures continuous datalogging for up to 48 hours. The data which already exists is permanently preserved.

CAMRegis are fitted with an RS485 interface as standard equipment which enables data transfer to a PC via Modbus protocol.

With the aid of a data management software (AKO-5004), the recordings can be evaluated and saved in the long term.

(The CAMRegis AKO-15750 with 5 channels are suitable as an alternative or replacement for Thermomax SM UNO to SM QUATTRO. The existing Thermomax PT100 sensors can be reused under consideration of the terminal assignment).

- In accordance with EN 12830/HACCP
- Logging of 1 to 5 or 1 to 10 measurement signals, respectively
- 5-channel unit: PT100, NTC, PT1000, digital, 4-20 mA
- 10-channel unit: NTC, PT1000, digital, 4-20 mA
- Display and print-out as table or graphic
- Storage every 15 minutes for 1 year
- Battery for up to 48 hours of mains autonomy
- High and low alarm per channel
- One fault signalling relay for each high and low alarm
- Adjustable alarm delay
- Optical indication in the display
- Internal alarm buzzer

Technical data

Supply voltage:	110-240 V, 50/60 Hz
Mains autonomy:	48 h
max. power consumption:	5 VA
Protection class:	IP 65
Ambient temperature:	0 ... 50 °C
Alarm relay:	250 V, 8 A, AC1
Dimensions (W×H×D):	230 × 230 × 90 mm
Indication resolution:	0,1 °C (-99.9 ... 99.9
Measurement range NTC:	-50 ... 105 °C
Measurement range PT1000:	-150 ... 550 °C
Measurement range Pt100:	-150 ... 590 °C
Measurement range 4-20 mA:	-999 ... 999
Digital input:	NO or NC

Scope of delivery

- 5-channel: Datalogger, 5 NTC sensors 1,5 m
- 10-channel: Datalogger, 5 NTC sensors 1,5 m

Selection

Type	EDP-No.	Designation	Dimensions			Supply voltage
			Width [mm]	Height [mm]	depth [mm]	
CAMRegis 5-K	295.7102	5-channel datalogger incl. 5 NTC sensors	230	230	90	110-240V AC 50/60Hz
CAMRegis 10-K	295.7103	10-channel datalogger incl. 5 NTC sensors	230	230	90	110-240V AC 50/60Hz

Accessories

Type	EDP-No.	Designation
NTC 1,5m	298.1715	NTC 1,5 m, flex.PVC cable, -40°C/+110°C, waterproof plastic sleeve 4x15 mm
NTC 3,0m	298.1718	NTC 3,0 m, flex.PVC cable, -40°C/+110°C, waterproof plastic sleeve 4x15 mm
NTC 6,0m	298.3426	NTC 6,0 m, flex.PVC cable, -40°C/+110°C, waterproof plastic sleeve 4x15 mm
AKO5008	295.7106	SOFTRegis download software
AKOSYS80039	295.7105	USB-RS485 converter incl. USB cable

Danfoss	**Data Logging and Remote Maintenance Systems** **AK-SM 350**	Danfoss

Features

The model AK-SM 350 is a data logging and monitoring unit for refrigeration systems in smaller-scale supermarkets.

This unit records temperatures in different refrigeration boxes and cabinets and stores them so that they can later serve as evidence concerning the compliance with official regulations.

In addition, it is possible to enter threshold values which trigger an alarm if exceeded. The alarm message which appears on the display can be forwarded to an external recipient (person with mobile phone or service companies).

The unit is installed at a central location inside the store. Thanks to the clear user interface, the temperature measurements can be
easily followed.

By pressing a few buttons, you can display different temperature trend graphs and in case of an alarm, the cause can be read from the display.

All store employees are able to operate the unit and authorised persons can make settings adjustments after entering a password.

Configuration and setting adjustments can be made via the input field
at the front of the device. For large data volumes
and extensive setting adjustments, it is recommended to us the software AK-ST. The programme is put on a computer.

When multiple units of the model AK-SM 350 need to be programmed with the same settings, the data backup and recovery functions of the programme AK-ST can be of great help.

Functions

The monitoring device can monitor up to 65 measurements.
Possible input types are:
- Up to 16 directly connected sensors or switching functions
- Signals from different cooling controllers of type EKC and AK via network
- Signals from inputs on the extension module(s) m2+ and from gas warning devices. These measurement values are also sent via the network.
- Pulse count function of energy meters
- All set points can be logged and stored in set time intervals.
- The values can be indicated in the display and retrieved by connecting a printer or a PC or modem.

Advantages
Compact unit for recording temperatures
• Records temperature data (HACCP) for submission to regulatory bodies
• Alarm function
- Local alarm or via modem/IP
- Alarm in case of temperature deviations
- Alarms when doors to cold rooms or frozen food rooms are open
• Texts can be added to the measuring points to describe the measuring range

Selection

Type	EDP-No.	Designation	Dimensions			Supply voltage
			Width	Height	Depth	
			[mm]	[mm]	[mm]	
AK-SM 350	**231.0708**	System manager	196 x 253 x 63	253	63	230V AC ±10% 50/60Hz

Accessories

Type	EDP-No.	Designation
AK-SM 352	**231.0718**	Cable to PC 3 m (RJ45 - COM interface)

| dixell | **Data Logging and Remote Maintenance Systems XWEB 500** | dixell |

Features

XWEB is a data logging and warning system based on web server technology. A new, modern data logging system compliance of all temperatures according to HACCP. The device complies with the EU regulation 37/2005. The measurement value sensor must not be the control sensor! It is able to communicate with external clients by using Internet websites. The client PC requires merely a standard browser such as Microsoft Internet Explorer®.

The websites with all information are already incorporated in the servers; the Linux operating system ensures maximum efficiency and security.

The server reads, stores and checks all data which come from the Dixell controllers and modules which are connected via an RS485 wiring. Communication protocol ModBus-RTU. The XWEB is compatible with most ModBus-RTU devices which are not manufactured by Dixell.

Direct connection is also possible with a crossover Ethernet network cable.
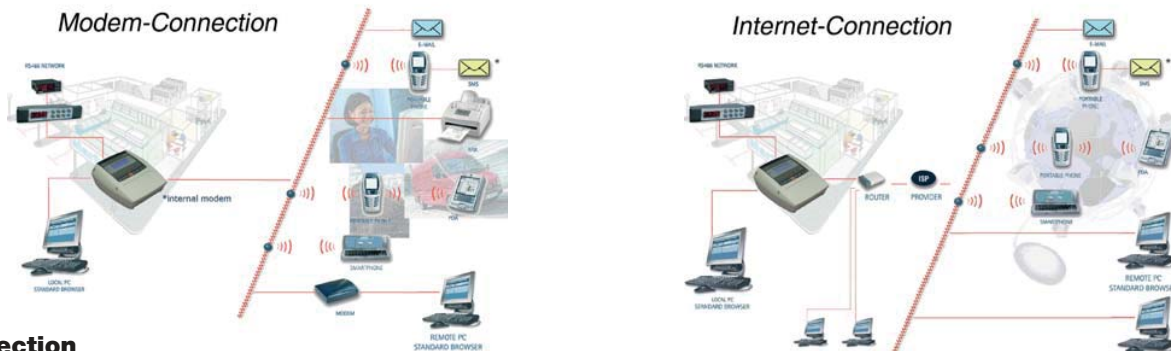
Clients (PC'S) can communicate with the server in a number of different ways:
- Modem: so-called point to point - connection, modem to modem;
- Locally via USB cable: Please first install the USB software on the CD-ROM before connecting the enclosed USB cable to the PC.
- Locally via crossover Ethernet cable: A direct Ethernet connection RJ45 with your Ethernet port on the PC.
- Ethernet: In the in-house LAN Ethernet network via RJ45 connection.
- Intranet / Internet: if a static IP address is available, via RJ45 - connection.

Functions of the XWEB - Management:
- Data display and logging, register and log alarms of the integrated controllers
- Alarm management can be set by the user: Activate relay or retransmission as a fax, e-mail or text message.
- Interactive commands for integrated controllers.
- Change parameters of the individual controllers.
- Graphical or tabular display and print-out of the recorded data.

Connection options

Modem-Connection

Internet-Connection

Selection

| Type | EDP-No. | Supply voltage | Version | | | | | | Dimensions | | |
			DIN-rail	Display	Analogue modem	GSM modem	Measuring point	Other	Width [mm]	Height [mm]	Depth [mm]
XWEB300D	**291.3438**	110/230Vac	ja	no	no	no	18				
XWEB300D	**291.3443**	110/230Vac	ja	no	no	ja	18				
XWEB500D	**291.3444**	110/230Vac	ja	no	no	no	36				
XWEB500D	**291.3439**	110/230Vac	ja	no	ja	no	100				
XWEB500	**291.3434**	230Vac	no	ja	ja	no	100		210	230	87
XWEB500CRO	**291.3437**	230Vac	no	ja	no	no	50	CRO function 1)	210	230	87

1) Load-dependent setpoint adaptation

| Type | EDP-No. | Version | | | | |
		Relay output	Internal memory	CPU	RS485 output	Logging interval
XWEB300D	**291.3438**	1	24MB		ja	
XWEB300D	**291.3443**	1	24MB		ja	
XWEB500D	**291.3444**	3	48MB	200MHz	ja	1 to 60 min.
XWEB500D	**291.3439**	3	128MB		ja	
XWEB500	**291.3434**	3	128MB		ja	
XWEB500CRO	**291.3437**	3	128MB		ja	

Accessories

Type	EDP-No.	Designation
CAB/WEB/NET	298.3417	CAB/WEB/NET cable 3 m, for integration into an Ethernet network
CAB/WEB/PC	298.3418	CAB/WEB/PC cable 1 m, for direct connection with a PC
KB1/PRG/CAB/KB11	291.3415	KB1/PRG+CAB/KB11 Hand programming device for addressing

	Data Logging System **Datalogger ECP-Plus 200 Expert DL3**	
Pego Electrical Boards		Pego Electrical Boards

ECP-Plus 200 Expert DL3,

is a microprocessor-guided datalogger for recording room temperatures. The temperatures are shown on a backlit LCD display. The ECP - Plus 200 Expert DL3 has three NTC sensor inputs for identifying the various room temperatures. Sensor break and sensor short-circuit are indicated on the display.

Furthermore, the datalogger has 3x independent digital input contacts which can be configured accordingly. In the event of an alarm (e.g.: excess temperature), a potential-free alarm relay is switched. The stored values can be shown on the display via the menu navigation, or directly transferred onto an SD memory card. Optionally, you can get the corresponding software from us which is stored on an SD memory card. The date as well as the current time are shown on the display.

Programming of the ECP - Plus 200 Expert DL3 is carried out via the six buttons mounted on the front side.

The ECP-Plus 200 Expert DL3 includes an integrated memory for logging temperature trends and alarms in accordance with HACCP. The data will of course be preserved via the battery in case of a voltage breakdown. Storage of the data can be guaranteed for a period of more than 365 days for a logging interval of 15 min. Please observe that the data should be read out in advance when changing the time or date.

Switchgear Control Cabinets

Technical data:

Supply voltage:	230Vac / 1 / 50/60Hz
Measurement input:	3 x NTC sensor (3,0 m)
Measurement range:	-45 to +45 °C
Resolution:	0,1 °C
Accuracy class:	1
Storage capacity:	49152 entries (after that the memory is overwritten)
Ambient temperature:	0 to +50 °C
Storage temperature:	-20 to +60 °C
Digital inputs:	3x configurable
Alarm relay:	max. 100 W (AC1)
Battery type:	CR 2032
Housing:	ABS plastic
Weight:	approx. 2,0 kg
Dimensions (WxHxD):	262 x 168 x 97 mm
Protection class:	IP 65

Equipment:
2x recording boards with display and keyboard for control elements
3x NTC sensor 3m silicone
Diverse fittings for cable entry

Type	EDP-No.	Name
ECP plus 200E	**272.2410**	ECP plus 200 Expert DL3 (3-channel datalogger 230 Volt)

Accessories

Type	EDP-No.	Name
SPZ-SD-CARD	**272.2421**	SD memory card incl. readout software
NTC 6,0 m	**298.3426**	Sensor, NTC 6,0m PVC cable (black) 6X15mm

	Data Logging System Datalogger	
testo		testo

testo 174T,

The mini datalogger for temperature, testo 174T, is the ideal transportation companion. It can be simply added to the goods, e. g. in containers and cold rooms, the datalogger continuously, reliably and unobtrusively monitors the temperature. The free software ComSoft testo174 allows quick programming of the datalogger as well as easy data analysis.

- High data security, even when the battery is empty
- Large measurement data storage
- Waterproof according to IP65
- Compact and robust
- EN12830-compliant
- Alerting via display
- Data transmission to PC via USB interface

Technical data:

Memory:	16000 measurement values
Measuring rage:	1min. ...24h (freely adjustable)
Display:	LCD 1-row
Storage temperature:	-40... +70 °C
Operating temperature:	-30... +70 °C
Battery type:	2 lithium batteries (CR 2032)
Dimensions:	60 x 38 x 18.5 mm
Sensor type:	internal NTC
Measurement range:	-30 ... +70 °C
Accuracy:	±0,5 °C (-30 … +70 °C)
Resolution:	0.1 °C

Type	EDP-No.	Name
0572 1560	**471.9831**	Datalogger Mini testo 174T one channel
572 0561	**471.9830**	Datalogger, Set Mini testo 174T

No software-CD included in the set because a free software download is possible from the Testo website

testo 175-T1,

Temperature datalogger, 1 channel with int. sensor, incl. wall bracket.
The temperature datalogger testo 175-T1, an ideal companion for goods, ensures continuous documentation of the entire cold chain. All new dataloggers from the testo 175 family have a USB interface as well as an SD card interface which makes reading out data quick and simple. The significantly larger storage capacity and power supply via standard batteries are further advantages of the new products.
The proven single-button menu structure which offers absolute operating comfort has of course been kept with the new generation of the dataloggers.

Technical data:

Memory:	1 million measurement values
Measurement range:	-35 ... +55 °C
Storage temperature:	-35 ... +55 °C
Operating temperature:	-35 ... +55 °C
Battery type:	3 x AlMn type AAA or Energizer
Service life:	3 years at 15 min. measuring cycle
Dimensions:	89 x 53 x 27 mm
Sensor type:	NTC
Accuracy:	±0,5 °C (-35 … +55 °C)
Resolution:	0.1 °C
Protection class:	IP 65
Measuring rage:	10 sec - 24 h

Type	EDP-No.	Name
0572 1751	**471.9834**	Datalogger Kompakt testo 175-T1 one channel

Three different software versions are available for programming and readout of the dataloggers as well as analysis of the data. Testo offers the matching software solution depending on the requirements. The testo ComSoft Basic 5 with a new graphical user interface offers all basic functions of a standard logger software. Regardless of where the dataloggers are used
– the testo ComSoft Basic 5 makes it easy to both configure and read out the devices, as well as to analyse the data. Special emphasis has been put on user-friendliness and intuitive operation. Further reaching requirements such, as e. g. merging of measurement data which have been generated at different places, are ideally met by the testo ComSoft Professional 4. In the sphere of the pharmaceutical industry on the other hand, there are very special requirements whose fulfilment is ensured by the testo ComSoft CFR21 Part 11.

	Data Logging System Datalogger	
testo		testo

testo 175-T2

2-channel temperature-datalogger with internal (NTC) and external sensor connection (NTC)

In addition to monitoring and documenting the air temperature in refrigeration and freezer rooms, the product temperature is often supposed to be logged. The testo 175 T2 has an external sensor input (NTC) which you can use with approved food sensors to measure the core temperature of the product or "between the package" in case of packaged, deep-frozen food. As all Testo dataloggers for use in the food sector, the testo 175 T2 is also tested by the ATP testing facility of TÜV Süd according to DIN EN 12830.

• EN 12830-compliant
• Waterproof according to IP 65
• Integrated USB and SD-card interface for reading out data
• Simultaneous monitoring of air and product temperature
• External sensor input for easy connection of e. g. an approved food sensor for measuring the core temperature of the product

Technical data:

Memory:	1,000,000 measurement values
Storage temperature:	-35 … +55 °C
Operating temperature:	-35 … +55 °C
Dimensions:	89 x 53 x 27 mm

Sensor type NTC
Measurement range:	-35 … +55 °C int.
	-40 … +120 °C ext.
Accuracy:	±0,5 °C (-35 … +55 °C) int.
Resolution:	0,1 °C

• Please observe that a USB cable is required for programming and reading out the logger. It is not included in the scope of delivery and must be ordered separately if needed (Order-No. 0449 0047).

Type	EDP-No.	Name
0572 1752	**471.9847**	Data logger w. sensor internal testo 175-T2 2-channel

Accessories

Type	EDP-No.	Name	
0613.2211	**471.9706**	Stainless steel NTC food sensor (IP65) with PUR-line	
0613.1712	**471.9784**	Precise, robust NTC air sensor	

**Switchgear
Control Cabinets**

	Data Logging System **Datalogger**	testo

testo 175-H1,

2-channel temperature and humidity data logger

With the long-term stable humidity sensor the testo 175 H1 is the professional datalogger for monitoring temperature and realtive humidity in work and storage rooms.

The testo 175 H1 continuously logs temperature and humidity values and shows the dew point on the display.

• Professional long-term monitoring of temperature and humidity in work and storage rooms
• Waterproof in accordance with IP 65
• Integrated USB and SD-card interface for reading out data
• Quick response time via external humidity sensor
• Parallel monitoring and logging of two temperature measuring points

Technical data:

Memory: 1,000,000 measurement values
Storage temperature: -20 … +55 °C
Operating temperature: -20 … +55 °C
Dimensions: 149 x 53 x 27 mm

Sensor type NTC
Measurement range: -20 … +55 °C
Accuracy: ±0.4 °C (-20 … +55 °C)
Resolution: 0.1 °C

Sensor type capacitive humidity sensor
Measurement range: 0 … 100 %r.h.
Accuracy: ±2 %r.h. (2 … 98 %r.h.)
Resolution: 0.1%r.h.

• Please observe that a USB cable is required for programming and reading out the logger. It is not included in the scope of delivery and must be ordered separately if needed (Order-No. 0449 0047).

Type	EDP-No.	Name
0572.1754	**471.9846**	Data logger w. sensors internal testo 175-H1 2-channel