Fault annunciator with internal modem

Alarm messaging and controlling via SMS

- Alarm and fault messages on mobile phone or fax optional as email or pager
- Controlling per SMS for fault annunciators with GSM modem on option
- Basic module with 8 digital inputs
- Modular fault annunciator expandable to a maximum of 16 digital and 4 analog inputs as well as 8 digital and 4 analog outputs
- Up to 4 receivers can be assigned for each message
- Internal real time clock, optional external DCF77 receiver
- Self monitoring by means of cyclical “alive” messages
- Parameterisation per serial interface by means of easy-to-use PC program
- Remote parameterisation by SMS or modem dial-up connection

Datasheet

06.09.2010

MFW-SM-DB-UK-006

Functional description

The MFW fault annunciator is used for transmitting faults or alarm signals as SMS, fax, pager messages or email to the corresponding terminal equipment. The fault annunciators incorporate an internal modem and are available in 2 principle variants.

Variants of the MFW fault annunciator:

1. Basic fault annunciator
   The basic fault annunciator is designed as a compact unit and provides 8 digital inputs.

2. Modular fault annunciator
   The basic module has 8 digital inputs. For extending the I/O range, each basic module can be combined with a maximum of 4 expansion modules, each of the following types can only be used once.

   - EM-G8DEX-0-BB-0 — 8 digital inputs
   - EM-G8DAR-0-BX-0 — 8 relay outputs
   - EM-G8DAL-0-BB-0 — 8 transistor outputs
   - EM-G4AE0-0-BX-0 — 4 analog inputs
   - EM-G4AA0-0-BX-0 — 4 analog outputs

The expansion modules are connected via a system bus cable to the CAN bus interface at the basic module.
You can find more detailed information in the separate datasheet «Expansion modules».

Triggering of messages:

For triggering the messages the following events can be parameterised:

- digital input - incoming messages or outgoing messages
- analog input - threshold underrun, threshold overrun or too high value changing speed of the analog value

Assignment of the message texts:

According to the version, the inputs are assigned to messages directly or the inputs are linked with each other for a maximum of 8 logical messages. The operations “AND”, “OR”, “XOR” and “NOT” can be used for the connection of the inputs. An individual delay for the individual messages is possible. When a fault occurs the assigned alarm message (measure point designation, text message, date and time) is sent. For each message a maximum of 4 receivers (phone number, fax number, email address or pager number) can be declared.

An example for linking inputs:

An object shall be supervised with a movement detector. An authorized person operates a keyswitch after entering the object to prevent the triggering of the alarm. A burglary alarm should only be sent if the movement detector is active and the keyswitch is inactive. The movement detector is attached to input 1 (A) and the keyswitch to input 2 (B).
The operation then is:

A & b – A and (not b) result in an alarm.

The alarm is delayed to provide the entering person with the opportunity to operate the keyswitch.

Functional description

Acknowledgement function:

The fault annunciator can be programmed that on absence of an acknowledgement the alarm message will be sent again to the same or next respective receiver after a parameterisable delay time.
The acknowledgement can be done by a mobile phone simply by using the SMS function “answer” or by modem connection with a PC or on-site with setting the input 8.

System time

The system time is provided by a built-in battery-backed real time clock that can optionally be maintained by a connectable DCF77 standard time receiver.

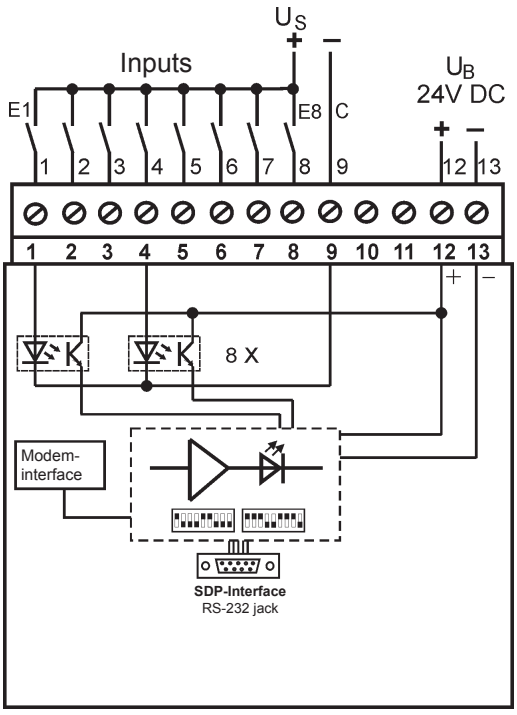
Alive-message

The regular transmission of an “alive” message can be configured to monitor the functioning of the device. That means that the MFW sends a message cyclically - e.g. once a week.

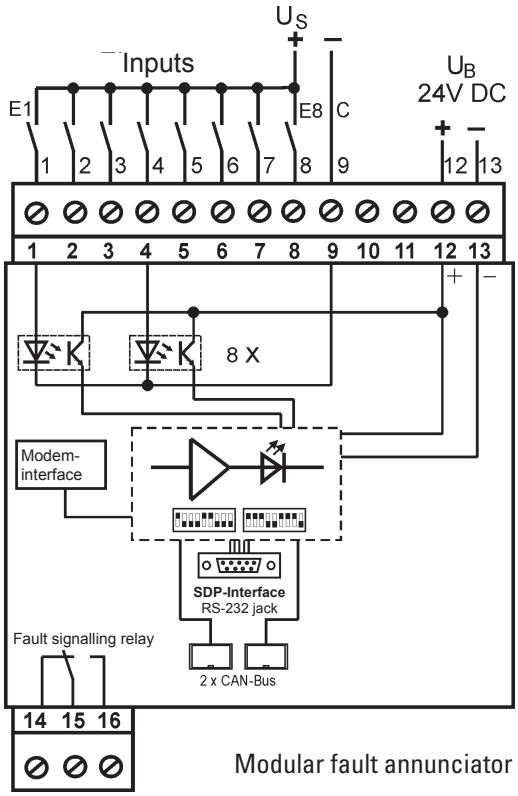
Parameterisation

The parameterisation is done per DIP switches and with a comfortable menu guided program based on Windows, which is in the scope of supply.

Terminal assignments



Basis fault annunciator



Modular fault annunciator

The Terminal assignments of the expansion modules can be taken from the seperate data sheet of the MFW expansion modules.

Type	US-AWMOD-G8DEX-DIA-1-BB-0	US-GWMOD-G8DEX-DIA-1-BB-0	US-AWMOD-G8DEX-DIA-0-BB-2 US-IWMOD-G8DEX-DIA-0-BB-2	US-GWMOD-G8DEX-DIA-0-BB-0
Item number	97IAAGAN1BB0	97IGAGAN1BB0	97IAAGAN0BB2 97IIAGAN0BB2	97IGAGAN0BB0
Modem	analog	GSM-Quadband	analog / ISDN-EURO-DSS1	GSM Quadband
I/O basic module	8 digital inputs	8 digital inputs	8 digital inputs	8 digital inputs
Possible expansions	not expandable	not expandable	8DE / 4AE / 8DA / 4AA	8DE / 4AE / 8DA / 4AA
Max. amount of triggerable message texts	8	8	20 on connection of each expansion module with 8 DE and 4 AE	8
Assignation of the messages	direct assignment input → message	linkage	direct assignment input --> message	linkage
Type of message	SMS, fax, pager	SMS, fax, email, pager	SMS, fax*, pager	SMS , fax, email, pager
Remote parameterisation via SMS	not possible	yes	not possible	yes
Remote parameterisation via modem	yes	yes (Activation of data services for the SIM Card is indispensable)	yes	yes (Activation of data services for the SIM Card is indispensable)
Acknowledgement function	per modem connection	per SMS	per modem connection	per SMS or with input 8 at the basic module
Control of outputs	not possible	not possible	per modem connection	per SMS

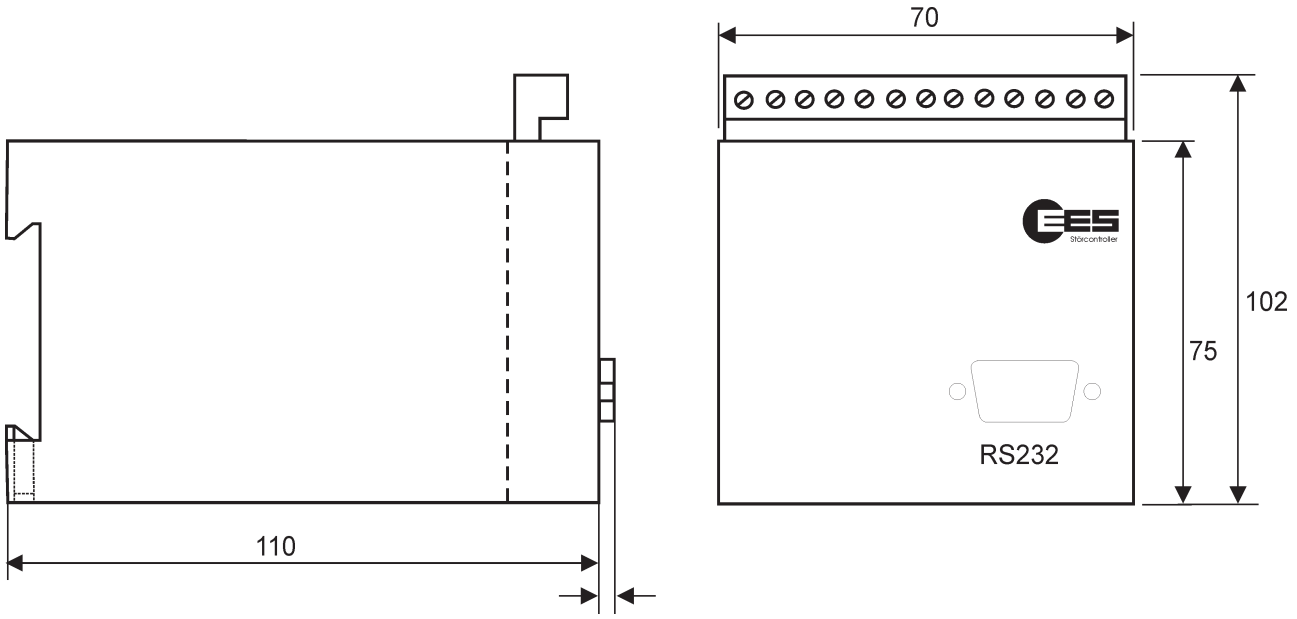
The transmission of short messages (SMS) to various terminals (PC, mobile, etc.) depends on the offered services of your provider.
Not all providers support all services. Actual information can be requested from your local provider.

These functionalities can differ from those in our brochure.

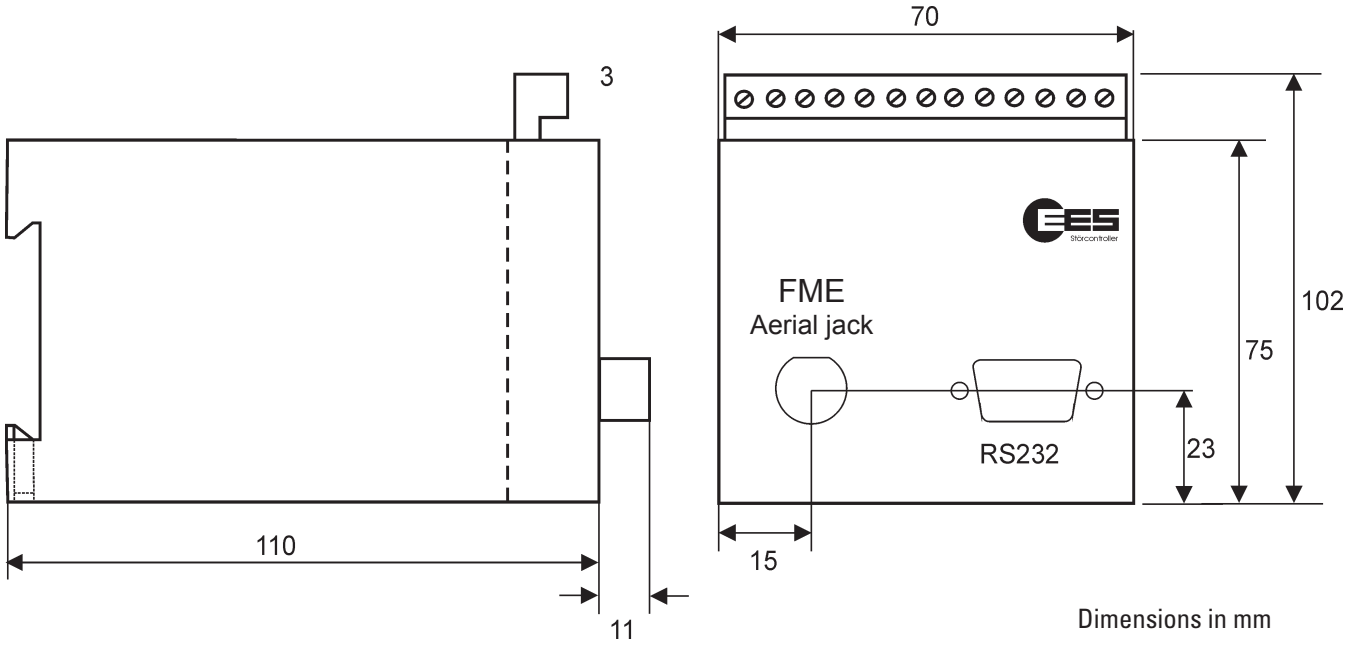
For fault annunciators with GSM modem adequate reception quality in the respective network is prerequisite for the error-free functioning of the device.
We would be pleased supporting you in this matter.

* Fax-function is not possible by using devices with ISDN-EURO-DSS1 modem.

Dimensional drawing of the Basis fault annunciator



Basic fault annunciator with analog modem



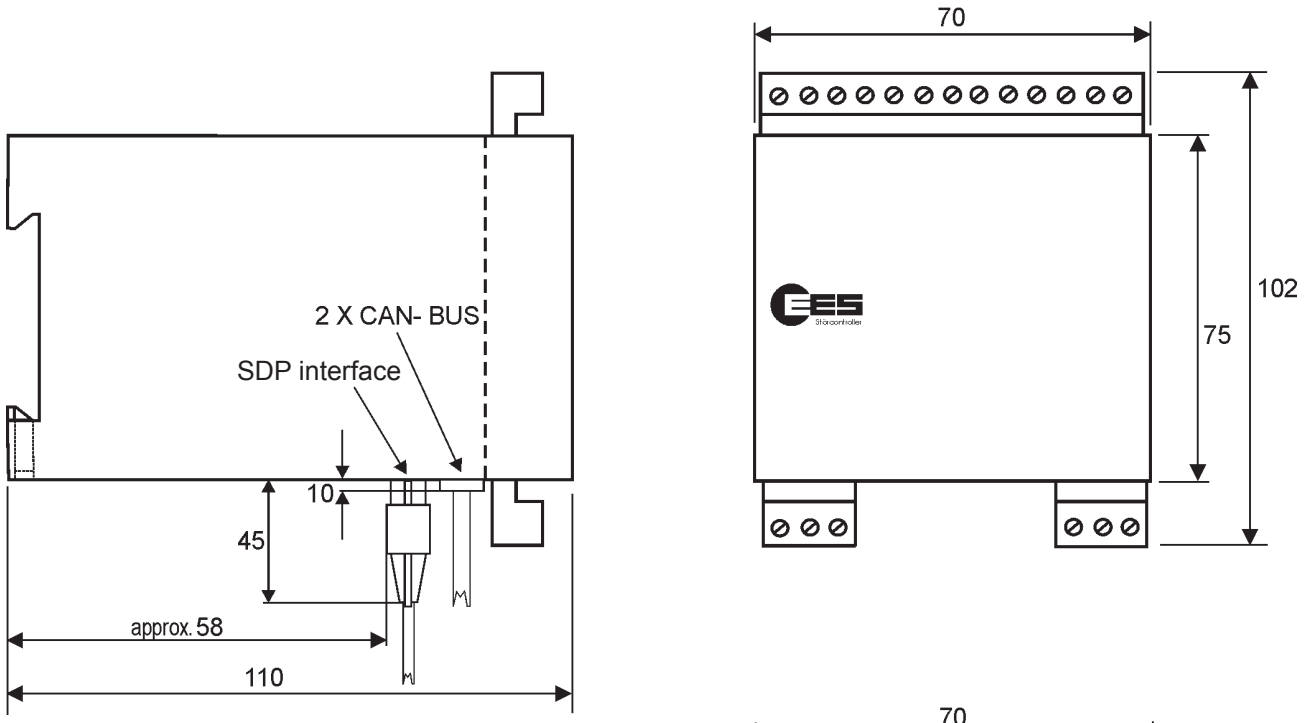
Dimensions in mm

Basic fault annunciator with GSM-Modem

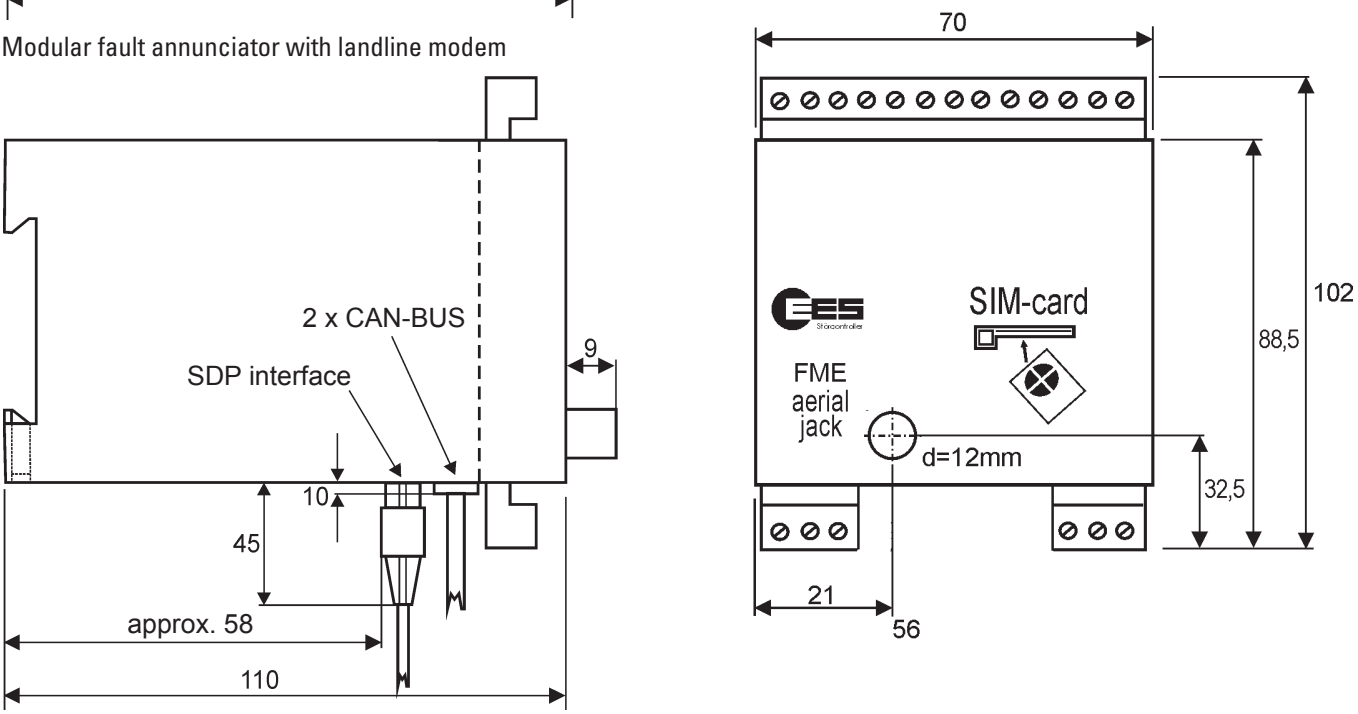
Please take into account that modules with internal GSM modem will need determined connection space for the aerial:

- Aerial "Antennensätze A and GPL" Overall depth 165 mm
- Aerial "Antennensätze GB and GBS" Overall depth 180 mm

Dimensional drawing of the Modular fault annunciator



Modular fault annunciator with landline modem



Modular fault annunciator with GSM modem

Please take into account that modules with internal GSM modem will need determined connection space for the aerial:

- Aerial "Antennensätze A and GPL" Overall depth 165 mm
- Aerial "Antennensätze GB and GBS" Overall depth 180 mm

The dimensional drawings of the expansion modules can be taken from the separate data sheet of the MFW expansion modules.

Technical Data

General data	
Rated operating voltage	24 V DC
Operating voltage range	
Basic module	10 ... 32 V DC
with expansions	20 ... 32 V DC
Power consumption of basic module	approx. 2.5 W
Air humidity	maximum 95%, non-condensing
Connection terminals	pluggable
Wire cross section rigid or flexible	
without wiresleeve	0,2 ... 2.5 mm^2
with wiresleeves	0,25 ... 2,5 mm^2
Assembly	on DIN-rail TS35 acc. to EN60715:2001-09
Housing / Protection class	ABS / IP 40
Basic module with GSM-Modem	
Operating and ambient temperature	-20°C ... + 60°C
Basic module with landline-Modem	
Operating and ambient temperature	0°C ... + 60°C
Galvanic isolation between dial-up line and supply voltage	0,5 kV_{eff}
Digital inputs	
Signal voltage	see table
Input resistance	see table
Minimum response delay	50 ms
Relay outputs	
Contact loading of the relay outputs*	
minimum	1.2 V / 1 mA (suitable for control of LED)
maximum	250 V AC / 400 mA 250 V AC / 2 A (pure ohmic load) 30 V DC / 2 A 110 V DC / 0.2 A 220 V DC / 0.1 A

The information given for alternating voltages are refering to a sinusoidal alternating voltage with a frequency of 50/60 Hz.

* We would be happy to supply you with more precise specifications on request.

Technical data of the expansion modules can be taken from the separate data sheet of the expansion modules

Technical data

Digital input modules are available with various signal voltages. The corresponding voltage is defined by the 23th digit of the type identification (e.g. US-GWMOD-G8DEX-DIA-0-B**B**-0).

Signal voltage U_S	Voltage key character				
	A	B	E	F	J
Nominal voltage	12 V AC/DC	24 V AC/DC	60 V AC/DC	110 V AC/DC	220 V AC/DC
Max input voltage	24 V	48 V	75 V	130 V	255 V
Input voltage DC max Low-state min High-state	 5,0 V DC 7,5 V DC	 9,5 V DC 14,5 V DC	 12,5 V DC 19,5 V DC	 22,0 V DC 35,0 V DC	 58,0 V DC 92,0 V DC
Input voltage AC max Low-state min High-state	 3,5 V AC 10,0 V AC	 6,5 V AC 19,0 V AC	 9,0 V AC 25,0 V AC	 15,0 V AC 45,0 V AC	 40,0 V AC 120,0 V AC
Input resistance	approx. 5 kΩ	10 kΩ	22 kΩ	68 kΩ	180 kΩ

Subject to technical changes.

Order indentification

Basic modules

Article No.	Type	Short description
97IGAGAN1BB0	US-GWMOD-G8DEX-DIA-1-BB-0	Basic-Fault annunciator / GSM-Modem / 8 DE 24 V
97IAAGAN1BB0	US-AWMOD-G8DEX-DIA-1-BB-0	Basic-Fault annunciator / Analog-Modem / 8 DE 24 V
97IGAGAN0BB0	US-GWMOD-G8DEX-DIA-0-BB-0	Modular-Fault annunciator / GSM-Modem / 8 DE 24 V
97IAAGAN0BB2	US-AWMOD-G8DEX-DIA-0-BB-2	Modular-Fault annunciator / Analog-Modem / 8 DE 24 V
97IIAGAN0BB2	US-IWMOD-G8DEX-DIA-0-BB-2	Modular-Fault annunciator / ISDN-Modem / 8 DE 24 V

Expansion modules

Article No.	Type	Short description
97AXXGAX0BB0	EM-G8DEX-0-BB-0	8 Digital inputs 24 V
97AXXGBX0BB0	EM-G8DAL-0-BB-0	8 Transistor outputs
97AXXGCX0BX0	EM-G8DAR-0-BX-0	8 Relay outputs
97AXXGEX0BX0	EM-G4AE0-0-BX-0	4 Analog inputs 0 ... 20 mA or 0...10 V
97AXXGIX0BX0	EM-G4AA0-0-BX-0	4 Analog outputs 0 ... 20 mA or 0...10 V

Accessories

Aerials, connecting cable to PC or laptop, power supplies, DC/DC converters, battery back up charging units and battery packs. Please see refering data sheets for more information.

Contact

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