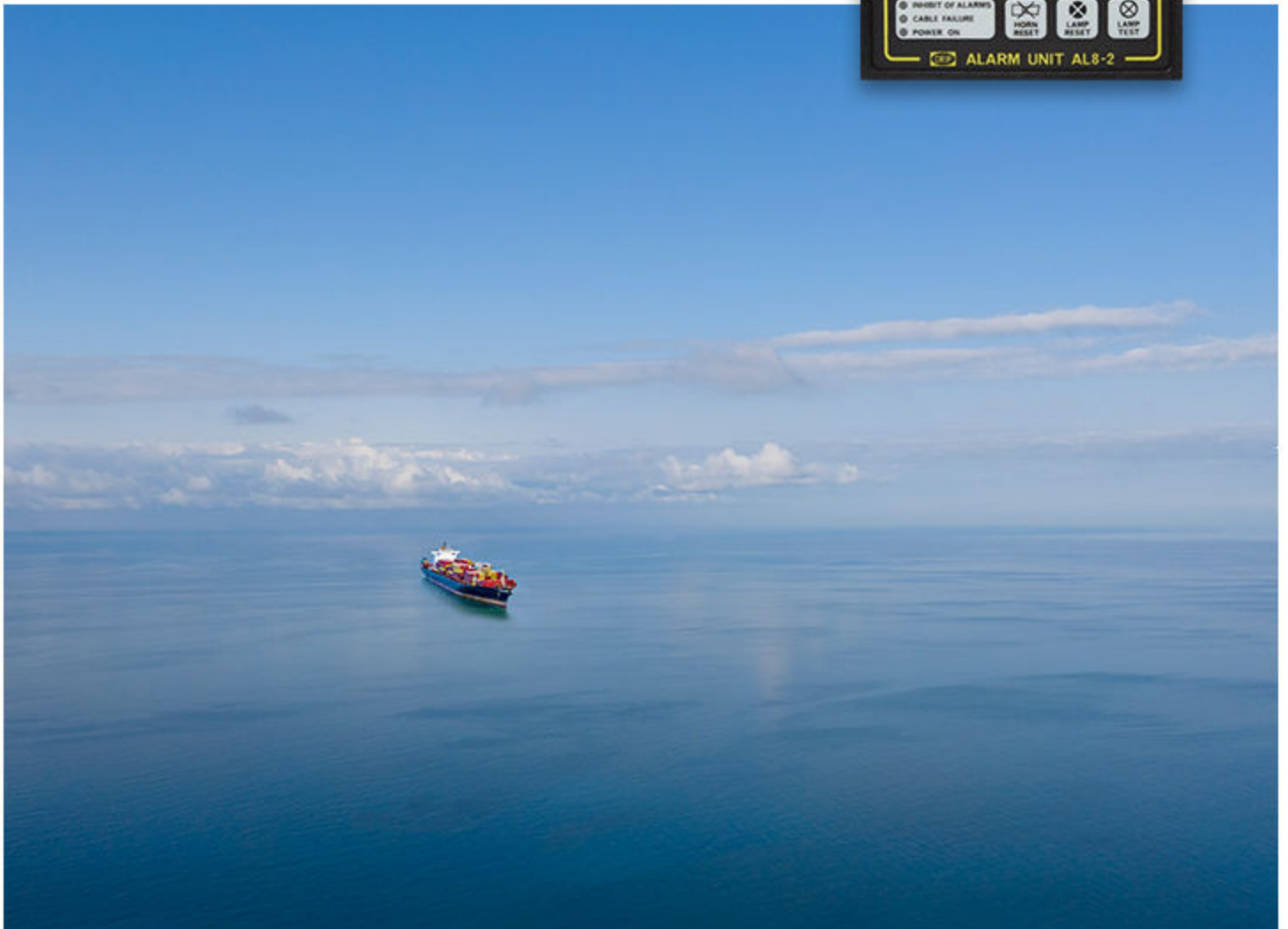


AL8-2

Alarm panels

Data sheet



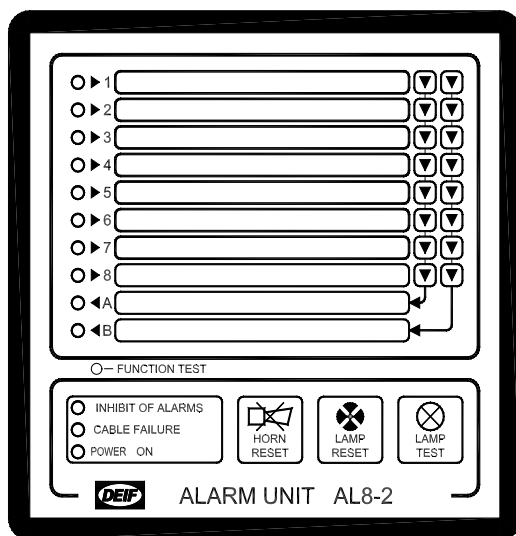
- Compact Q96 design
- Extremely easy push-button programming (no jumpers or the like)
- Individual programming of each input: N/O or N/C, time delay, alarm inhibit, output and cable supervision
- Up to 5 units in main/extension configuration
- Clear identification of first alarm received in case of successive alarms
- 35 mm DIN rail or base mounting

1 Application

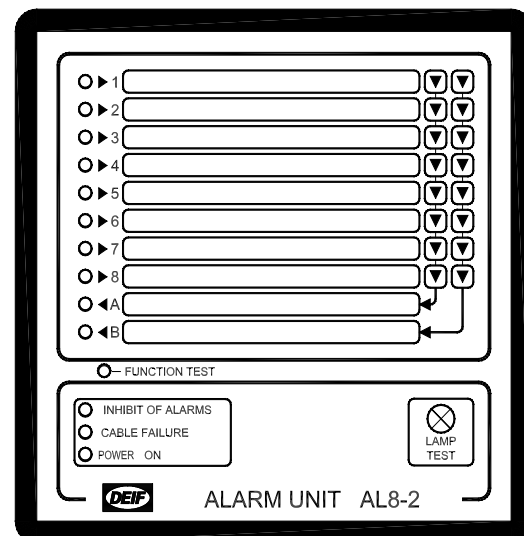
The alarm panel AL-8 is provided with:

- 8 alarm inputs
- 3 relay outputs:
 - 1 output for connection of horn
 - 2 outputs used for transmission of group alarms, selective disconnection of faulty equipment, etc.

The alarm panel is suitable to switchboards in industrial and marine plants for alarm and control purposes. It is CE-marked for residential, commercial and light industry plus industrial environment.



AL8-2 Main



AL8-2 Extension

Alarm inputs: The alarm panel is provided with 8 alarm inputs for connection of external mechanical alarm contacts. These 8 inputs are individually programmable for N/O or N/C alarm contacts.

Time delay: The alarm inputs are individually programmable with a time delay, so that an alarm condition will not be registered until after the preset time. The time delay is individually programmable by the user within the range 0..40 s in steps of 1 s.

Alarm indicators: The AL8-2 is equipped with 8 LEDs marked 1 to 8 for indication of an alarm condition for the individual alarm inputs. When an alarm condition occurs, the LED for the relevant input channel will flash with a red light. If more than one alarm occurs before the push-button "LAMP RESET" is activated, the first alarm LED will flash ahead of the others.

Alarm outputs: The alarm panel is provided with 3 relay outputs, 1 of which is used for connection to an audible/visual alarm. The remaining 2 relay outputs are individually programmable by the user to follow certain alarm inputs. When the relays of 1 of these 2 outputs are activated, the relevant LED marked "A" or "B" on the front will be lit constantly (red light).

Indicator for auxiliary voltage: The alarm panel is equipped with a LED marked "POWER ON" which, when lit (green light), indicates that auxiliary voltage is connected and that the processor is active.

Indicator for cable failure (for example, loose connection): The user may for each alarm channel determine whether cable failure shall result in an alarm. Cable failure is indicated by means of the LED marked "CABLE FAILURE" (flashing, yellow light). The LED for the faulty channel will simultaneously be lit (constant, yellow light). A cable failure results in activation of the relay output used for audible/visual alarm only.

Reset of alarms: The alarm indicators and the alarm outputs "A" and "B" are reset by means of the push-button marked "LAMP RESET". On activation of this push-button, the alarm indicators will be lit with a constant red light, until the external alarm conditions are cancelled. When these have been cancelled, the alarm indicators are switched off and the output relays are reset.

Reset of output for horn (audible/visual alarm): The relay output designed for connection of horn is reset by activation of the push-button marked "HORN RESET". This output may be reset even though the external alarm condition prevails.

External reset: External reset can be achieved by disconnecting the auxiliary voltage for more than 2 s.

Test of indicators: When the push-button marked "LAMP TEST" is activated, all LEDs of the alarm panel are lit (constant, yellow light). The normal functions of the alarm unit remain unaffected by activation of this push-button, and the lamp test may thus be carried out when the unit is in operation.

Functional test: The alarm panel is equipped with a test button marked "FUNCTION TEST". For safety reasons this is placed behind a hole in the front plate of the unit. The test button is activated by means of a needle or a thin screwdriver. (Do not use a pencil point). Upon activation of this, all alarm inputs are activated. As a result, all LEDs for alarm inputs will start flashing, and the relay output for connection of horn is activated.

The relay outputs "A" and "B" are likewise activated if these are connected (i.e. in the programming cycle) to one or more alarm inputs. If one or more alarm inputs are programmed to time delayed registration, these will not be activated until after the preset time. Inhibited alarms will not be activated until the inhibit has been cancelled.

The condition "FUNCTIONAL TEST" will continue, until reset by means of the push-buttons marked "HORN RESET" and "LAMP RESET".

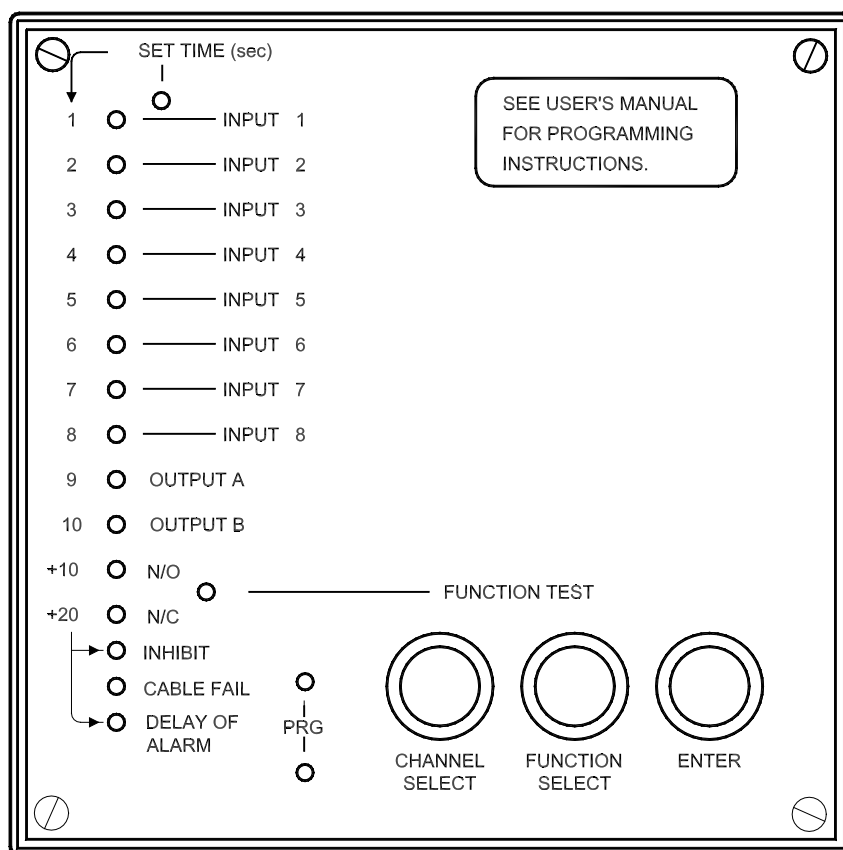
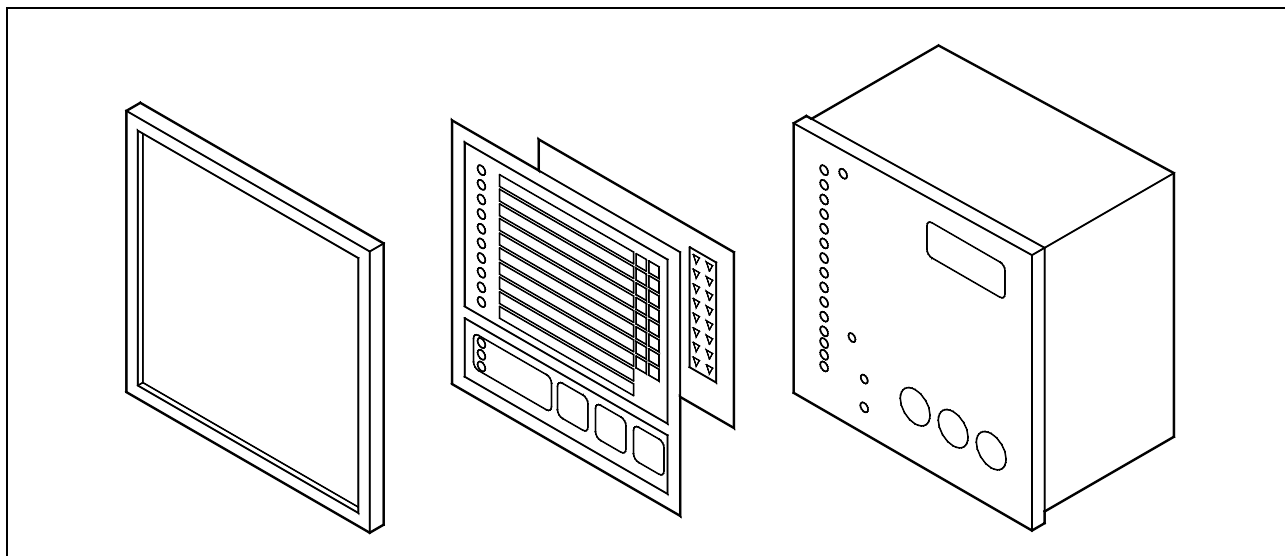
Inhibit of alarms: To avoid unwanted alarms during normal start and stop of a process, the alarm panel is provided with an inhibit circuit, activated by means of an external contact.

The alarm channels can individually be connected (i.e. in the programming cycle) to the inhibit circuit, implying that new alarms are rejected until the inhibit has been cancelled. The inhibit function does not affect already registered but not yet reset alarms.

The inhibit circuit may be programmed to a time delay, resulting in the inhibit function not being cancelled until after a preset time. This delay is programmable within the range 0..40 s in steps of 1 s.

1.1 Programming functions

The programming functions are accessible after removal of the bezel and the front sheet.



By means of the push-buttons marked "CHANNEL SELECT", "FUNCTION SELECT" and "ENTER" and the indication of the LEDs for the individual channels/functions, the alarm panel is programmed. A detailed programming manual is included on delivery.

The following individual functions may be programmed by the user for each individual alarm input (1 to 8):

1	Registration of alarm at open/closed alarm contact - i.e. either N/C or N/O contact
2	Activation of output(s) "A" and/or "B" on an alarm condition
3	Inhibit of incoming alarm
4	Detection and indication of cable failure - e.g. broken wire, or termination
5	Time delayed registration of an alarm condition

The following common functions may be programmed by the user:

1	Activation/deactivation of relay for output "A" on an alarm condition (N/O, N/C)
2	Time limited activation/deactivation of output "A" - the time limit may be set within the range 1..10 s in steps of 1 s
3	Activation/deactivation of relay for output "B" on an alarm condition (N/O, N/C)
4	Time limited activation/deactivation of output "B" - the time limit may be set within the range 1..10 s in steps of 1 s
5	Delayed cancellation of inhibit function - the time delay may be set within the range 0..40 s in steps of 1 s

The programming is initiated by pressing the push-button marked "PRG", resulting in the unit being set to programming status.

The principle of programming is to point at the input channel which is to be programmed by means of the push-button "CHANNEL SELECT".

Repeated activation of the push-button results in successive selection of the channels in the order 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 1 - 2 - 3 ..., etc.

When the required input channel has been selected (LED lit), the push-button "FUNCTION SELECT" is applied to indicate the options for the first function (1 to 5 as shown above), and the required function is entered by means of the push-button "ENTER". The push-button "FUNCTION SELECT" is then applied to indicate the options for the next function in line, etc. The two push-buttons are likewise applied to programme the common functions.

The programming may be interrupted at any time by pressing the push-button "PRG" again. It is hence always possible for the user to change the programming of a single input channel or a single common function, if required.

For detailed description of the programming, please see the programming manual.

1.2 Main/extension configuration

By means of connections for jumper cables on the rear of the alarm panel, up to 5 alarm units may be connected together.

In this configuration the alarm unit with no plug in X2 will act as main and the remaining as extension units.

Upon registration of an alarm condition in an extension unit, the relay outputs for horn of both the extension unit and the main unit are activated, whereas the relay outputs "A" and "B" are activated locally irrespective of the main/extension configuration.

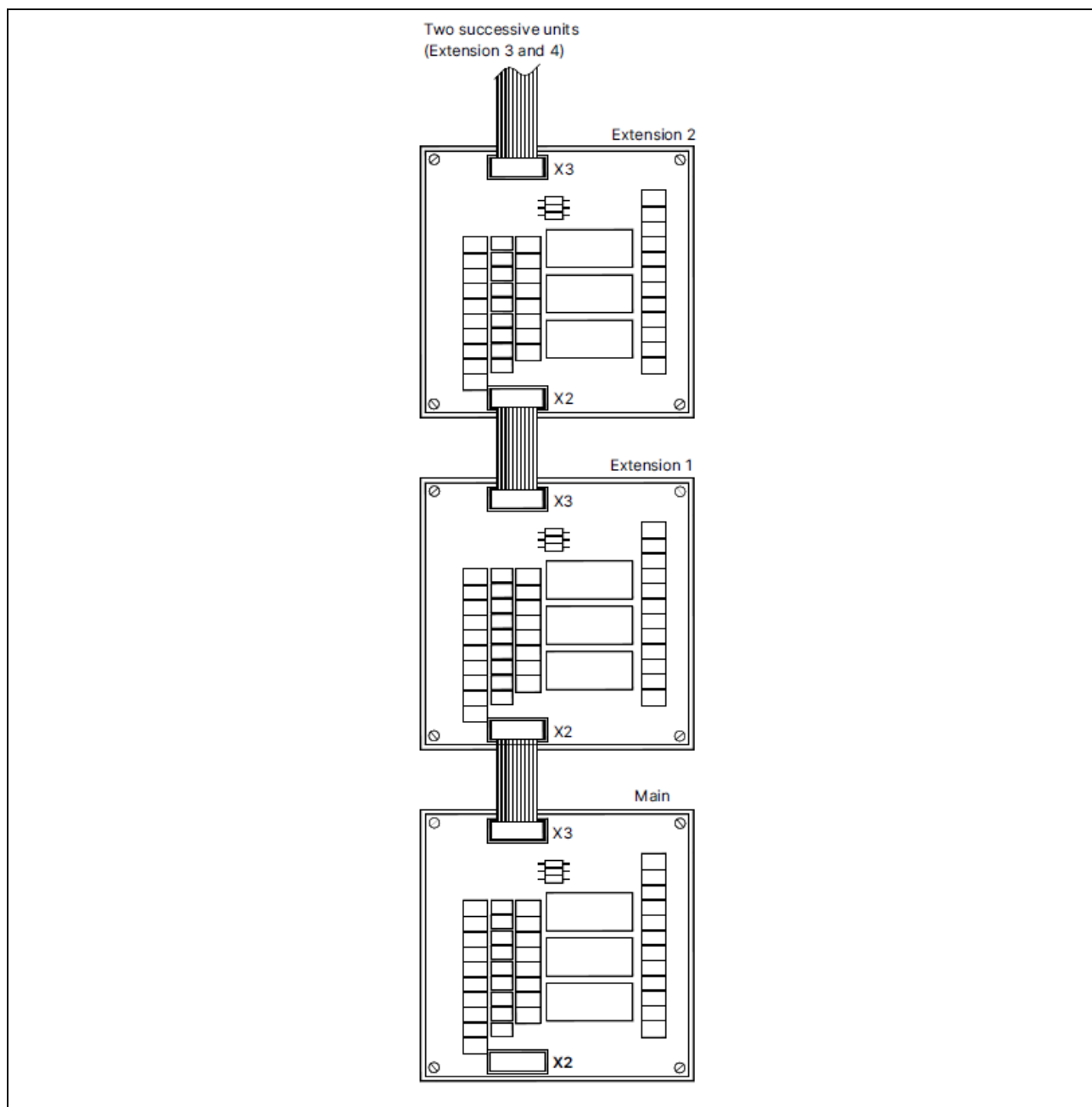
When connected in main/extension configuration, alarms and relay output for horn may be cancelled centrally by means of the push-buttons marked "LAMP RESET" and "HORN RESET" of the main unit.

The extension unit is supplied with a special folio where the push-buttons marked "LAMP RESET" and "HORN RESET" are left out, if the unit is ordered as an extension unit.

Extension units are likewise supplied with the flat cable applied to couple the units.

The functional test is carried out locally by means of the push-button marked "FUNCTION TEST" but is cancelled centrally on the main unit.

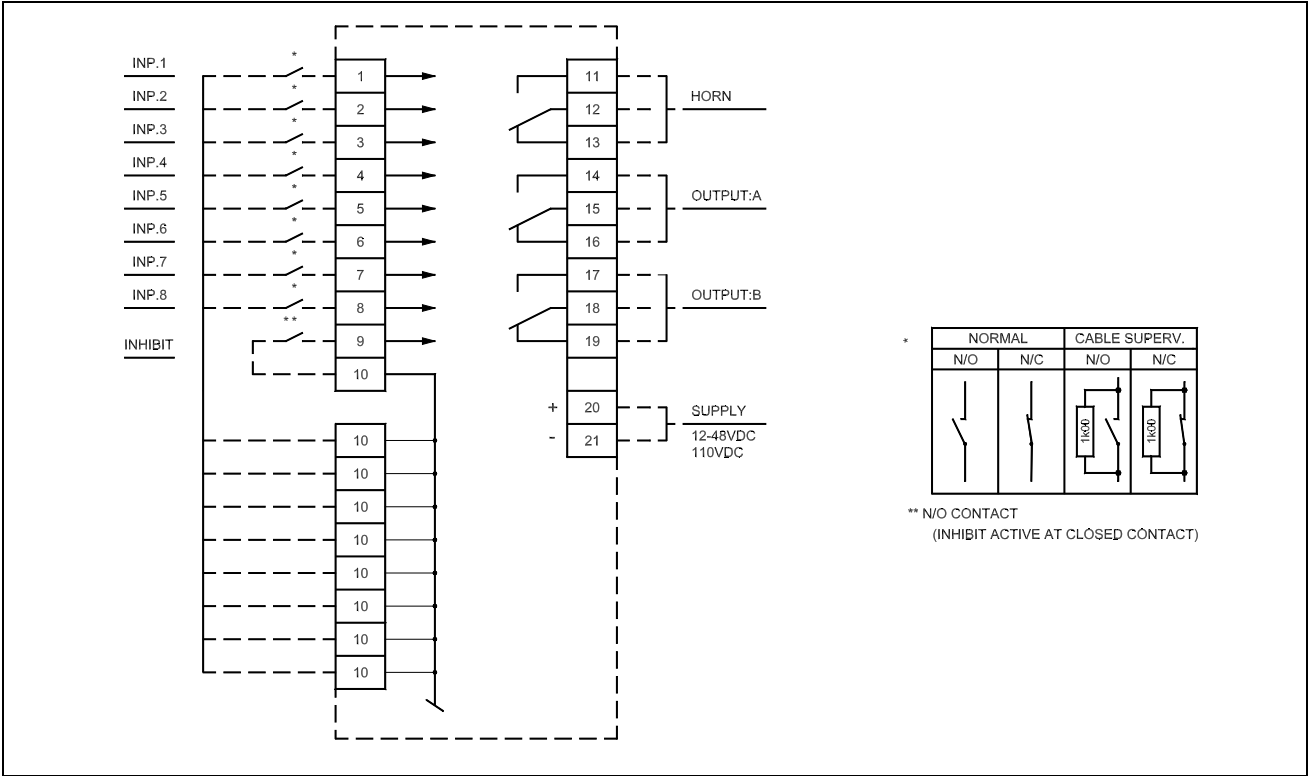
Max. distance between two units: 50 cm.



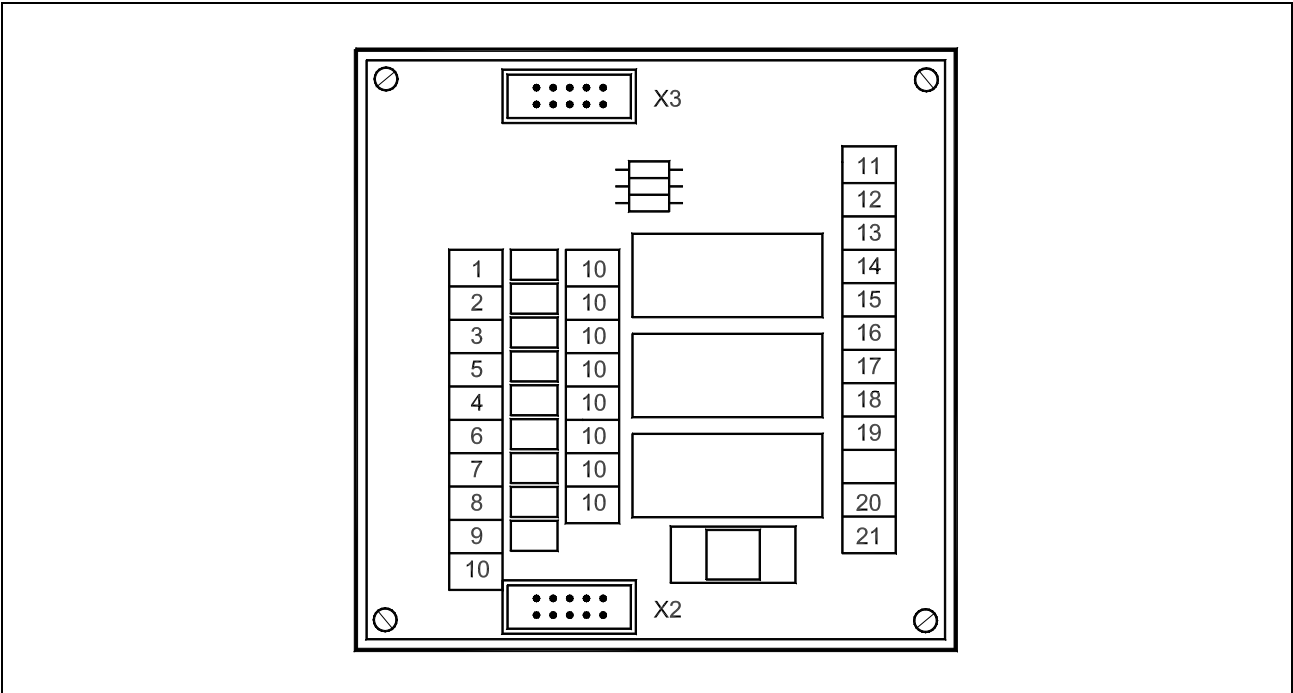
2 Technical specifications

Input	Alarm:	8 channels for connection of potential-free signal contacts (N/O or N/C)	
	Inhibit:	1 channel for connection of potential-free signal contact (N/O). Inhibit at closed contact	
	Max. signal voltage/current	6 V (open contact), 6 mA (closed contact)	
Output	A, B and horn:	Relay output, 1 change-over switch for each	
	Contact rating:	250 V - 2 A - 400 W (AC). 250 V - 1 A - 50 W (DC)	
General technical specifications			
Auxiliary voltage		12 - 24 - 48 - 110V DC ±25% (min. 10V DC). Consumption: approx. 6 W Max. ripple: 10% pp, to IEC 688 Recommended fuses: 12 - 24 – 48 V: 1 A T, 110 V: 150 mA T	
Galvanic separation	Between alarm inputs/“INHIBIT”:		None
	Between alarm inputs and remaining circuits:		2 kV - 50 Hz - 1 min.
	Between alarm outputs and alarm inputs/“INHIBIT”:		2 kV - 50 Hz - 1 min.
	Between alarm outputs and remaining circuits:		2 kV - 50 Hz - 1 min.
	Between aux. voltage and remaining circuits:		2 kV - 50 Hz - 1 min.
Temperature:		-10...55°(nominal). -25...70°C (operating). -40...70°C (storage)	
Climate:		Class HSE, to DIN 40040	
EMC:		To EN 50081-1/2, EN 50082-1/2, SS4361503 (PL4) and IEC 255-4 (class 3)	
Materials:		All plastic materials fire retarding and self-extinguishing to UL94 (V0)	
Connections:		Max. 1.5 mm²	
Protection:		Front: IP40. Terminals: IP20, to IEC 529 and EN 60529	

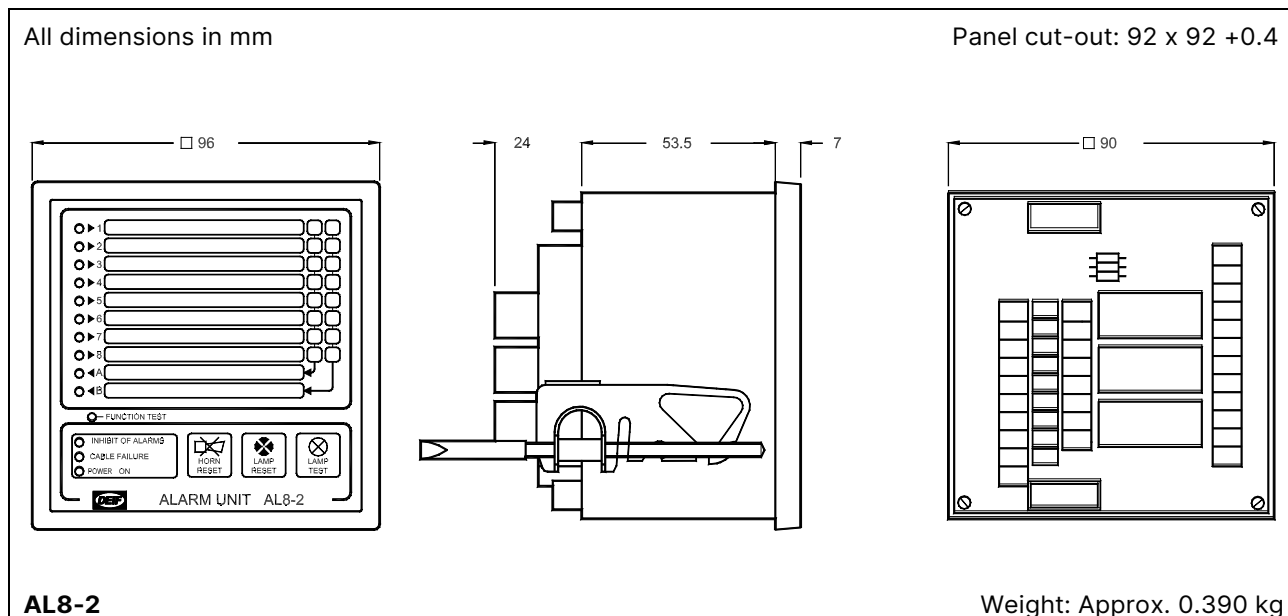
2.1 Connections



Rear view



2.2 Dimensional details



2.3 Available variants

Item no.	Variant no.	Variant description
2998760020	01	AL8-2 main
2998760030	01	AL8-2 extension

2.4 Order specifications

Variants:

Mandatory information					Additional options to the standard variant
Item no.	Type	Variant no.	Main/extension	Aux. voltage	Option

Example:

Mandatory information					Additional options to the standard variant
Item no.	Type	Variant no.	Main/extension	Aux. voltage	Option
2998760020-01	AL8-2	01	Main	24V DC	No options available