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# Alarm Monitoring

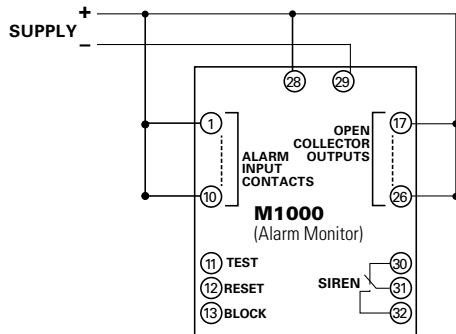
## Monitoring

# M1000 SERIES

## Alarm Monitor



### Simplified Circuit Diagram



### Features & Benefits

FEATURES	BENEFITS
<b>10 configurable digital inputs</b>	Supports both NO and NC input contacts
<b>11 open collector outputs</b>	Allows external control and remote indication
<b>1 siren relay output</b>	Direct connection of alarm siren
<b>Special indication of first alarm</b>	Provides clear alarm overview in larger systems
<b>Multiple units can be connected as one system</b>	Modular and scalable solution
<b>Voltage and insulation monitoring</b>	Replaces voltage and insulation monitoring relay on the DC system
<b>Dimming of LEDs</b>	Suitable for bridge consoles
<b>Type-approved by marine classification societies</b>	Applicable in harsh environments
<b>Configuration by DIP switches or PC</b>	Easy installation and configuration
<b>RS485 Modbus RTU</b>	Communication with HMI and SCADA systems

### Ordering Information

ORDERING NUMBER	CONTROL POWER	FUNCTION
M1000.0040	48-110 Vdc	IP54 front
M1000.0080	12-24 Vdc	IP54 front
M1000.0220	12-24 Vdc	Internal siren, IP54 at front

### Description

The M1000 is an alarm panel with 10 digital inputs. Inputs from a dry contact (normally open [NO] or normally closed [NC]) will cause the corresponding LED to flash. Simultaneously a common alarm output and a siren output will be activated as well as an individual output. The unit has separate indications of first alarm, following alarms and acknowledged alarms. It also has dedicated inputs for remote reset and blocking. The unit can be configured for cable monitoring and monitoring of its own supply and insulation level.

Multiple M1000 units can be interconnected to form a large scale alarm system. In this situation functions are available for synchronizing the flashing of the LEDs and enabling global indication of first alarm for all connected units. Alarm related parameters like time delays, reset functions and other features can be configured through 18 programming switches. The M1000 can also be configured via the RS232 interface. A standard ANSI/VT100 terminal is used as programming tool. The M1000 is equipped with a 2-wire RS485 interface supporting MODBUS-RTU communication.

### Specifications

<b>Voltage Supply</b>	12-24 Vdc-30%/+30% (8-32 Vdc) 48-110 Vdc-30%/+40% (33-155 Vdc)
<b>Max. Power Consumption</b>	180 mA
<b>Ambient Temp.</b>	-10°C to +70°C (also available for -40°C to +70°C)
<b>Siren Relay Contact Output</b>	220 Vac/2 A; 30 Vdc/2 A, 30 W Max. 150 mA per channel
<b>Resistance in Sensing Cable</b>	Max. 1000 W
<b>Insulation Monitor</b>	25 kW±8 kW (50 kW±10 kW for M1000-11-XXC)
<b>Impulse Test</b>	4.5 kV 1/50 µsec.
<b>EMC</b>	CE according to EN50081-1, EN50082-1, EN50081-2, EN50082-2 and EN61000-2-6
<b>Programming</b>	16 dip-switches or via RS232 interface
<b>Communication</b>	RS485 interface
<b>Weight</b>	0.4 kg
<b>Dimensions</b>	<b>H</b> 144 mm (5.7"); <b>W</b> 144 mm (5.7"); <b>D</b> 35 mm (1.4")
<b>Panel Cut-out</b>	<b>H</b> 138 mm (5.4"); <b>W</b> 138 mm (5.4")
<b>Protection Degree at Front</b>	IP54 (see Type Description)