

AIDS to NAVIGATION

Catalogue

Flashers and Communication Products



Department of Navigation Systems

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Industrial Member of International Association
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Cybernetica AS has been approved
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to the quality management system standard:
ISO 9000:2000

Reference customer:



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NOTE: The manufacturer reserves the right to introduce changes
to the specifications without prior notification, as necessary.



Flasher E863

Designed to provide highly reliable subsystem, the unit uses the latest surface mount and microcontroller technology to provide a compact, robust self-contained solid state device incorporating several new features

E863 flasher units are designed for switching both filament lamp and/or LED lanterns and for transmission of diagnostic and emergency messages via local area network (LAN). The flasher utilizes Pulse Width Modulation to achieve a very high degree of regulation of the effective voltage of the lantern .

The E863 flasher provides the user with a convenient, simple setting up by a service computer device that may be used in both stand alone and system applications. Special care has been taken to minimize the power consumption in the idle state which is essential when using the flasher in primary battery powered buoys.

Features

- Programmable automatic control of flashing
- Daylight-depending switching on and off of the flashing mode by a photosensor and sending the actual switching time messages to the monitoring and control centre
- Precision effective voltage regulated filament output
- Lampchanger or twin filament or LED-lantern operation
- Autosynchronisation by internal clock/calendar to be adjusted either by a GPS receiver or by any other flasher in the control and monitoring system
- Built-in monitoring and control LAN interface for the communication with other units
- Sending diagnostic and emergency messages to monitoring and control centre via LAN and communication controller
- Simple setting up and programming using a service computer



Specification

Input voltages	8 - 30V DC
Nominal voltage of the lamp	10.30V rms

Output power	2 - 100W
Current consumption in sleeping mode in the pause of flash in flash	1mA 1.2mA 6mA
Flash lenght	any multiples of 10ms up to 60.01s
Period time	any multiples of 20ms up to 655.35s
Character changing	using a service computer
Character stability	-20ppm
Stability of built-in clock	± 20ppm (without GPS correction)
Daylight control	delayed switching by external photosensor, delay programmable by service computer. Sending switching time messages to the center
Inputs	RS485, photosensor, control input of reserve units, voltage measurements
Outputs	two stage filament with automatic changeover to standby filament, RS485, control output of reserve units
Temperature range	-30°C to +55°C* (IEC 68-2-1, 2, 14)
Relative humidity	max 98% at +35°C (IEC 68-2-3)
Dimensions	83mm diameter, 52mm high
Weight	0.4kg

*) the temperature range can be optionally extended

E863-20012302



Communication Controller E924 with GPS support

The new version of the Communication Controller E924 offers in addition GPS receiver support and mobile phone Short Message Service (SMS) support. It is designed for the long-term operation in field conditions

Basic Features

- Communication between a light and the regional monitoring and control centre. Communication over the LAN of a light with up to 23 nodes
- Regular polling of the LAN's nodes (other equipment units of a light) in every 15 minutes
- Programmable time scheduling of regular communication sessions, and immediate sending of the emergency messages to the control centre
- Responding to the commands and inquiries from the regional monitoring and control centre
- Measurement and recording of 5 analogue input signals in every 15 minutes, the last 256 records are accessible. Checking of contact sensors (tampering, fire, ect.) and sending of emergency messages to the control and monitoring centre
- Recording of statistical data about the quality, time and results of last 32 communication sessions
- Programmable scheduling of mobile phone standby mode in order to save energy



GPS features

- Receiving and periodical recording of the GPS signals with the period specified by the user.
- Adjusting of the built-in clock/calendar based on the GPS signals and sending of the time adjustment signals to the other nodes of a light.

Short Message Service (SMS) features

- Sending of the SMS emergency messages to the user-specified mobile phone in case of receiving the emergency signals from the inputs AN4 and/or AN5
- Responding with SMS messages describing the current state of a light to received SMS inquiries

The new version of the Communication Controller E925 offers in addition GPS receiver support and the mobile phone Short Message Service (SMS) support

Basic features

- Communication between a light and the regional monitoring and control centre. Communication over the LAN of a light with up to 21 nodes
- Regular polling of the LAN nodes (other equipment units of a light) in every 15 minutes
- Programmable time scheduling of regular communication sessions and immediate sending of the emergency messages to the control centre
- Responding to the commands and inquiries from the regional monitoring and control centre
- Measurement and recording of 5 analogue input signals in every 15 minutes, the last 256 records are accessible. Checking of contact sensors (tampering, fire ect.) and sending emergency messages to the control and monitoring centre
- Recording of statistical data about the quality, time and results of last 32 communication sessions
- Programmable scheduling of mobile phone standby mode in order to save energy

GPS features

- Reception and periodical recording of the GPS signals with the period specified by the user
- Adjusting of the built-in clock/calendar based on the GPS signals and sending of the time adjustment signals to the other nodes of a light

Short Message Service (SMS) features

- Sending of the SMS emergency messages to the user-specified mobile phone, in case of receiving the emergency signals from the inputs AN4 and/or AN5
- Responding with the SMS messages describing the current state of a light to received SMS inquiries
- Execution of commands issued by servicing personnel in the form of SMS messages or forwarding them to other units within a light (e.g. switching ON/OFF of a light at daytime)
- Sending of the synchronizing SMS messages to the user-specified mobile phone (communication controller of another light)



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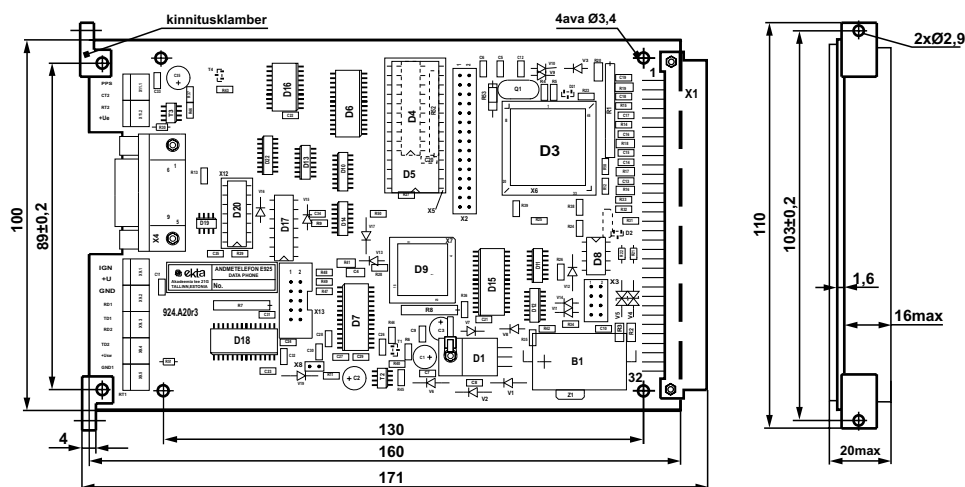
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Specification

Input voltages	9 - 20V DC, optionally up to 28V
External contact sensors voltage	5V, output resistance of voltage source 1 k
Current consumption	
instandby mode	1.5mA (GSM receiver OFF)
in alert mode	50mA max (GSM receiver ON)
in communication mode	220mA max (GSM transceiver ON)
current of GPS receiver	80mA
Deviation of coordinates with 95% probability	15m 100m "with selective availability activated"
Communication media	GSM-900 mobile telephone network
Minimum GSM signal level	-70dBm (70.7 V on 50 load)
Power of GSM transmitter	2Wmax
Communication data rate	9600bps with GSM and LAN, 4800bps with GPS receiver
Local area network (LAN)	RS485 based, maximal length 1.2km
Voltage range on 5 analogue measurement inputs	0 - 5V, 8 bit resolution
Inputs, outputs	GSM antenna, GSM handset, RS485 , 2xRS232 (one for GPS receiver), 5 analogue measurement inputs, contact sensors
Temperature range	-20°C to +55°C* (IEC 68-2-1,2,14)
Relative humidity	max 98% at +35°C (IEC 68-2-3)
Dimensions	Eurocard 100mm x 170mm
Weight	0.3kg

*) the temperature range can be optionally extended



- Execution of commands issued by servicing personnel in the form of SMS messages or forwarding them to other units within a light (e.g. switching ON/OFF of a light at daytime)
- Sending of the synchronizing SMS messages to the user-determined mobile phone (a communication controller of another light)

Specification

Input voltages	9 - 20V DC, optionally up to 29V
External contact sensors voltage	5V, output resistance of voltage source 1k Ω
Current consumption in standby	1.5mA (GSM receiver OFF)
in alert mode	50mA max (GSM receiver ON)
in communication mode	250mA max (GSM transceiver ON)
current of GPS receiver	80mA
Deviation of coordinates with 95% probability	$\pm 10m$ $\pm 100m$ "with selective availability activated"
Communication media	GSM-900 mobile telephone network
Minimum GSM input signal level	-70dBm (input 70.7 μV on 50 Ω load)
Power of GSM transmitter	2Wmax
Communication data rate	9600bps with GSM and LAN, 4800bps with GPS receiver
Local area network (LAN)	RS485 based, maximal length 1.2km
Voltage range on 5 analogue measurement inputs	0 - 5V, 8 bit resolution
Inputs, outputs	GSM antenna, GSM handset, RS485, 2xRS232 (one for GPS receiver), 5 analogue measurement inputs, contact sensors
Temperature range	-20°C to +55°C* (IEC 68-2-12,14)
Relative humidity	max 98% at +35°C (IEC 68-2-3)
Dimensions	70x210x183mm
Weight	2.4kg

*) the temperature range can be optionally extend

E924gps-20012302