



Order code: IL-NT MRS 16

## Controller for single gen-set applications

# Datasheet

### Product description

- ▶ Compact gen-set controller for single gen-set operating in standby mode
- ▶ Meets all requirements for Manual and Remote Start (MRS) applications
- ▶ Full gen-set monitoring and protection

- ▶ True RMS measurement
- ▶ 3 phase power measurement of gen-set incl. kWh

### Key features

- ▶ Outstanding EFI engine support with diagnostic messages in plain text via J1939
- ▶ Detailed RTC event and performance log
- ▶ Plug-in and CAN bus extension modules capability
- ▶ WebSupervisor, AirGate and LOCATE support with plug-in module
- ▶ On-line control and monitoring over web pages with plug-in module
- ▶ Fuel theft protection and Total fuel consumption monitoring
- ▶ Earth fault current protection with plug-in module
- ▶ Alternative switchable configuration
- ▶ Automatic and manual GCB control
- ▶ Magnetic pickup input
- ▶ D+ preexcitation terminal

### Application overview



## Technical data

### Power supply

Power supply range	8-36 VDC
Power supply drop-out immunity	100 ms (from min. 10 V)
Power consumption	approx. 100 mA / 8 V; 40 mA / 36 V
Peak power consumption (LT)	approx. 0,33 A / 8 V; 0,18 A / 36 V
Backup battery type	CR 1225
Estimated backup battery lifetime	10 years

### Operating conditions

Operating temperature	-20 °C to +70 °C
Operating temperature (LT version)	-40 °C to +70 °C
Operating humidity	95 % w/o condensation (IEC/EN 60068-2-30)
Protection degree (front panel)	IP 65
Vibration	5-25 Hz, ± 1.6 mm 25-100 Hz, a = 4 g
Shocks	$a_{max}$ 500 m/s <sup>2</sup>
Storage temperature	-30 °C to +80 °C

### Voltage measurement

Measurement inputs	3 ph-n Gen voltage
Measurement type	True RMS
Voltage range	480 V Ph-Ph (277 V Ph-N)
Max. measured voltage	340 V Ph-N
Voltage accuracy	2 % from nominal voltage
Frequency range	30-70 Hz, measured from L3
Frequency accuracy	0.05 Hz

### Current measurement

Measurement inputs	3 ph generator current
Measurement type	True RMS
Current range	5 A

Max. measured current	9 A
Max. allowed current	10 A continuous, 50 A/1 s
Current accuracy	2 % from nominal current

### Binary inputs

Number	6 non-isolated
Input resistance	4.2 kΩ
Common pole	Positive, $V_s = 8-36$ V DC
Close/Open indication	0-0.8 V close contact 2 - 36 V - $V_s$ open contact

### Binary outputs

Number	6 non-isolated
Operating voltage	8-36 V DC
Switching to	Negative supply terminal
Max current	0.5 A (2 A per group)

### Analog inputs

Number	3, non-isolated
Electrical range	0-2500 Ω
Resolution	10 bits, 4 digits
Precision	2 % from measured value
Supported sensor types	Predefined: VDO 10Bar, VDO Temperature, VDO Fuel level User-defined: 10 points non-linear sensors can be defined by the user

### Communication

CAN1	External modules, 250 kbps, max 200 m
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### Magnetic pick-up

Voltage input range	2-70V <sub>pp</sub>
Frequency input range	4 Hz to 10 kHz (min 2 V <sub>pp</sub> @ 4 Hz, 6 V <sub>pp</sub> @ 10 kHz)
Frequency measurement tolerance	0.2 %

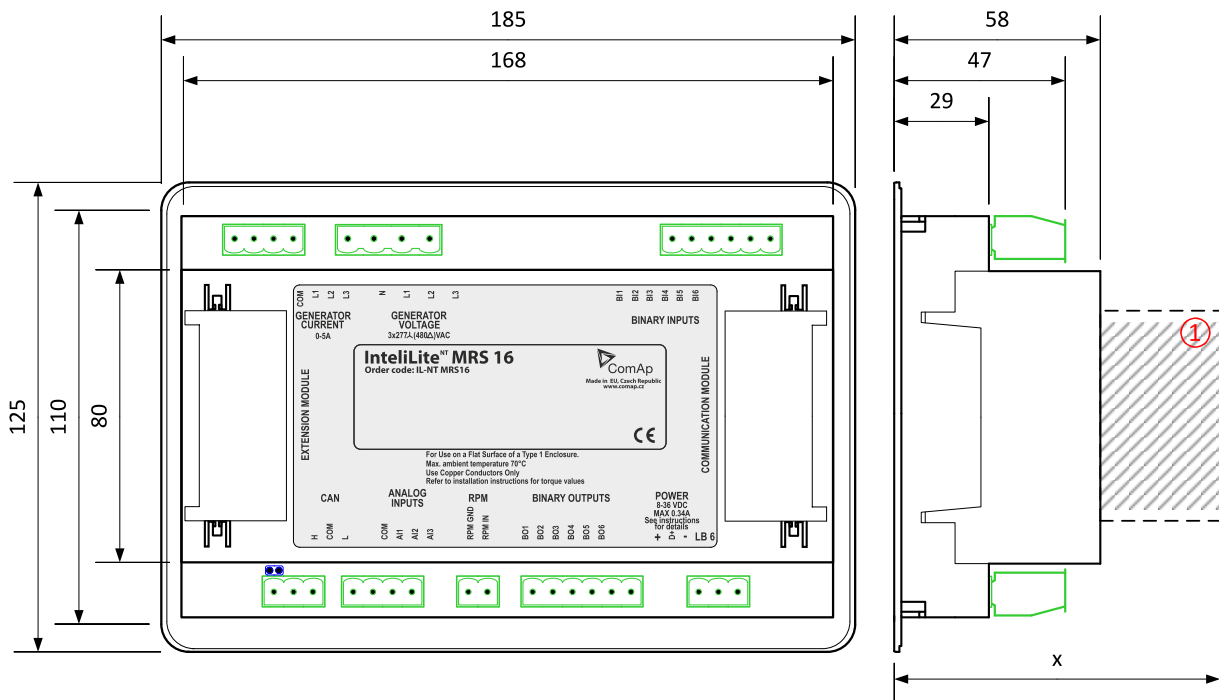
### D+

Excitation current	250 mA, during the engine start only
Charging fail threshold	80 % of U <sub>supply</sub>

**Display**

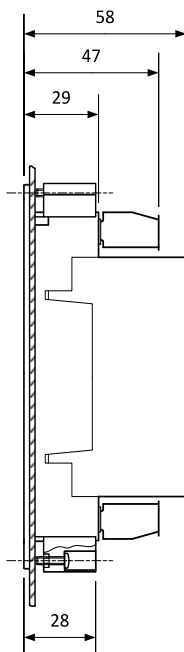
<b>Type</b>	Build-in monochromatic
<b>Resolution</b>	128 × 64 px

## Dimensions, terminals and mounting



**Note:** Dimension x depends on plug-in module.

### Panel door mounting



### Overview of parameter x

Plug-in module	Parameter x [mm]
IL-NT-AOUT8	75
IL-NT-BIO8	74
IC-NT-CT-BIO7	76
IL-NT-RS232	113
IL-NT-RS232-485	115 @ RS232 / 74 @ RS485
IL-NT-GPRS	122
IL-NT-S-USB	128
IB-Lite	108

**Note:** Parameter x includes reserve for connectors of plug-in modules.

**Note:** The controller is to be mounted onto the switchboard door. The requested cut-out size is 175x115 mm. Use the screw holders delivered with the controller to fix the controller into the door.

## Available extension modules

Product	Description	Order code
IL-NT AOUT8	8 analog outputs packed in a unit	<a href="#">IL-NT-AOUT8</a>
IL-NT BIO8	8 binary inputs in a unit (HW switchable to 8 binary outputs)	<a href="#">IL-NT-BIO8</a>
IC-NT CT-BIO7	7 binary inputs (HW switchable to 7 binary outputs) and 1 AC current measuring input	<a href="#">IC-NT-CT-BIO7</a>
IL-NT RS232	Communication module which provides additional RS232 interface for controller	<a href="#">IL-NT-RS232</a>
IL-NT RS232-485	Communication module which provides additional RS232 and RS485 interface for controller	<a href="#">IL-NT-RS232-485</a>
IL-NT GPRS	Communication module with integrated GSM modem with GPRS Internet connection	<a href="#">IL-NT-GPRS</a>
IL-NT S-USB	Communication module which provides additional USB interface for controller	<a href="#">IL-NT-S-USB</a>
IB-Lite	Communication module which provides additional Ethernet interface for controller	<a href="#">IB-Lite</a>
IGS-PTM	8 binary inputs, 8 binary outputs, 4 analog inputs and 1 analog output in a unit	<a href="#">IGS-PTM</a>
IG-IOM	8 binary inputs, 8 binary outputs, 4 analog inputs and 1 analog output in a unit	<a href="#">IG-IOM</a>
IGL-RA15	15 binary LED output (3 colors) packed in a rugged metal unit	<a href="#">IGL-RA15</a>

## Related products

Product	Description	Order code
IL-NT RD (SW)	Remote Display Software for IntelliLite NT	<a href="#">IL-NT RD</a>

## Functions and protections

Description	ANSI code	Description	ANSI code
Overvoltage	59	Overfrequency	81H
Undervoltage	27	Underfrequency	81L
Gas (Fuel) Level	71	Overload	32
Phase Rotation	47	Overcurrent	50+51
Current Unbalance	46	Voltage Asymmetry	47
Earth Fault	51N+64		

## Certificates and standards

<ul style="list-style-type: none"> <li>▶ EN 61010-1:95 +A1:97</li> <li>▶ EN 61000-6-3:2006</li> <li>▶ EN 61000-6-3:2006</li> <li>▶ EN 61000-6-1:2005</li> <li>▶ EN 61000-6-2:1999</li> </ul>	
List of standards is available on: <a href="https://webstore.iec.ch/">https://webstore.iec.ch/</a>	

