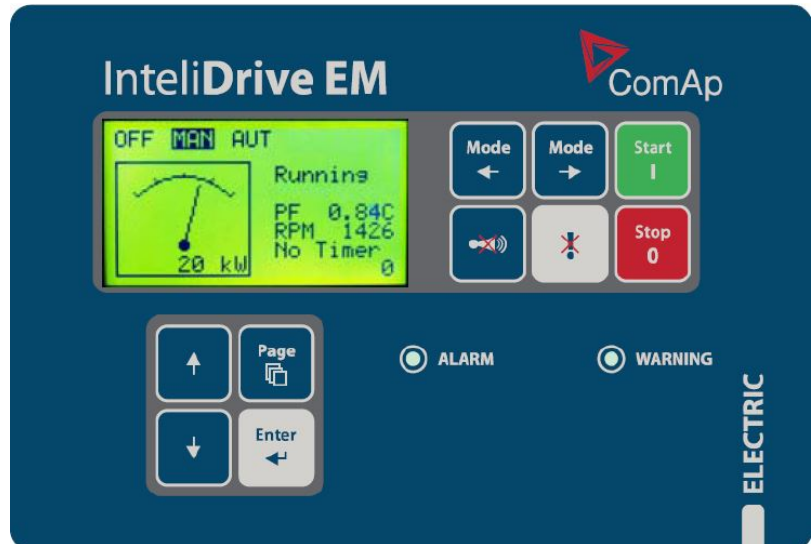


InteliDrive EM



Order code: INTELIDRIVE EM

Engine Controller for Electric Asynchronous Motors

Datasheet

Product description

InteliDrive EM is a comprehensive controller to control electric asynchronous motor. The controller is equipped with a graphic display showing icons, symbols and bar-graphs for intuitive operation. InteliDrive EM automatically starts the motor when all conditions are met, protects it and then stops it on an external signal or by pressing push buttons. It is possible to control up to 6 motors by one controller. The key feature of InteliDrive EM is its easy-to-use operation and installation.

Key features

- Electric Motor control, monitoring and protection
- Motor control, monitoring and protection
- All common ways to start asynchronous motor: direct, Y-D, SoftStarter starting
- 7 configurable binary inputs and outputs
- 3 configurable analog inputs
- Selectable protections alarm/shutdown
- Setpoints adjustable via keyboard or PC
- USB, RS485 or RS232, GSM/GPRS, ModBus communication
- Real time clock and event history log
- Automatic or manual start/stop of the motor
- Push buttons for simple control, lamp test
- Graphic back-lit LCD display 128 × 64 pixels
- LED indicators
- Front panel sealed to IP65
- Power supply 8–36 VDC
- Operating temperature
 - -20 °C to +70 °C regular unit
 - -40 °C to +70 °C low temperature unit
- 3 phase protections
 - Over/under voltage
 - Voltage asymmetry
 - Overcurrent/overload
- True RMS current and voltage measurement

Technical data

Power supply

Voltage supply	8-36 V DC
Power supply Consumption	40-430 mA depend on supply voltage and temperature
Consumption depends on supply voltage	0.104 A at 8 V DC
	0.080 A at 12 V DC
	0.051 A at 24 V DC
	0.044 A at 30 V DC
	0.040 A at 36 V DC
Allowed supply voltage drop-out	100 ms from min. 10 V return to min. 8 V
Battery voltage measurement tolerance	2 % at 24 V

Operating conditions

Operating temperature	-20 °C to +70 °C
Storage temperature	-30 °C to +80 °C
Protection front panel	IP 65
Impact protection	EN 62262, EN 50102 (IK04)
Humidity	95 % non-condensing (EN 60068-2-30)
Standard conformity	
Electromagnetic Compatibility	EN 50081-1:94, EN 50081-2:96
	EN 50082-1:99, EN 50082-2:97
Vibration	5 - 25 Hz, ±1.6mm
	25 - 100 Hz, a = 4 g
Shocks	a = 200 m/s ²
Heat radiation	9 W
Accessories	2 W (+1 W per module)

Dimensions and weight

Dimensions	180 × 120 × 55 mm
Weight	450g

Current inputs

Nominal input current (from CT)	5 A
Load (CT output impedance)	<0.1 Ω
CT input burden	<0.2 VA per phase (In=5A)
Max. measured current from CT	10 A
Current measurement tolerance	2 % at 24 V
Max. peak current from CT	150 A / 1 s
Max. continuous current	12 A

Binary inputs and outputs

Number of inputs	14
Input resistance	4.2 kΩ
Input range	0-36 V DC
Switching voltage level for close contact indication	0-2 V switching to negative power supply terminal
Max voltage level for open contact indication	8-36 V DC

Number of outputs	7
Maximum current	0.5 V
Maximum switching voltage	36 V DC

Voltage inputs

Measuring voltage range	0-277 V AC phase to neutral 0-480 V AC phase to phase
Maximal measured voltage	340 V AC phase to neutral 600 V AC phase to phase
Input resistance	0.6 MΩ phase to phase 0.3 MΩ phase to neutral
Voltage measurement tolerance	2 % from the Nominal voltage
Overvoltage class	III / 2 (EN61010)

Analog inputs (Not electrically separated)

Number of inputs	3, resistive
Resolution	10 bits
Maximal resistance range	2500 Ω
Resistance measurement tolerance	±2 % ±2 Ω out of measured value

Speed pick-up input

Type of sensor	magnetic pick-up (connection by shielded cable is recommended)
Input voltage range	2 Vpk-pk to 50 Veff
Minimum measured frequency	4 Hz
Maximum measured frequency	10 kHz (min. input voltage 6Vpk-pk)
Frequency measurement tolerance	0.2 %

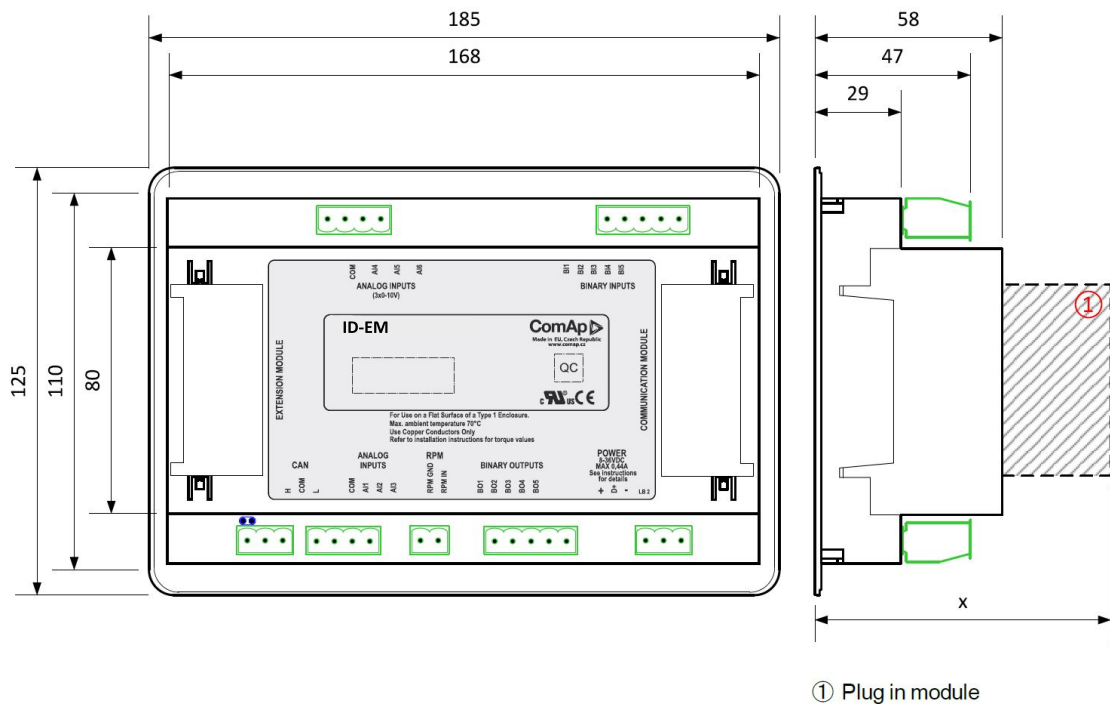
CAN bus interface (Galvanically separated)

Maximal CAN bus length	200 m
Speed	250 kBd
Nominal impedance	120 Ω
Cable type	twisted pair (shielded)
Nominal Velocity of Propagation	min. 75 % (max. 4.4 ns/m)
Wire crosscut	min. 0.25 mm ²
Maximal attenuation (at 1 MHz)	2 dB / 100 m

Recommended Industrial Automation & Process Control Cables:

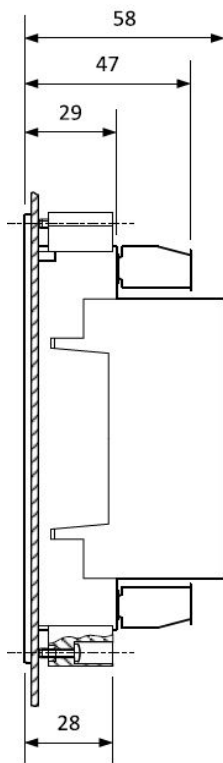
- > BELDEN (see www.belden.com):
 - >> 3082A DeviceBus for Allen-Bradley DeviceNet
 - >> 3083A DeviceBus for Allen-Bradley DeviceNet
 - >> 3086A DeviceBus for Honeywell SDS
 - >> 3087A DeviceBus for Honeywell SDS
 - >> 3084A DeviceBus for Allen-Bradley DeviceNet
 - >> 3085A DeviceBus for Allen-Bradley DeviceNet
 - >> 3105A Paired EIA Industrial RS485 cable
- > LAPP CABLE (see www.lappgroup.com):
 - >> Unitronic BUS DeviceNet Trunk Cable
 - >> Unitronic BUS DeviceNet Drop Cable
 - >> Unitronic BUS CAN
 - >> Unitronic-FD BUS P CAN UL/CSA

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
IL-NT-IO1	75
IL-NT-AIO	75
IL-NT-RS232	113
IL-NT-RS232-485	115 @ RS232/74 @ RS485
IL-NT-S-USB	128
IB-Lite	108
IL-NT-GPRS	122



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 175 × 115 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	IL-NT-AOUT8
IL-NT-BIO8	8 binary inputs in a unit (HW switchable to 8 binary outputs)	IL-NT-BIO8
IL-NT-IO1	4 binary inputs and 4 analog inputs in a unit	IL-NT-IO1
IL-NT-AIO	4 configurable analog inputs and 1 configurable analog output in a unit	IL-NT-AIO
IGL-RA15	15 binary LED output (3 colors) packed in a rugged metal unit	IGL-RA15
IL-NT-RS232	Communication module which provides additional RS232 interface for controller	IL-NT-RS232
IL-NT-RS232-485	Communication module which provides additional RS232 and RS485 interface for controller	IL-NT-RS232-485
IL-NT-S-USB	Communication module which provides additional USB interface for controller	IL-NT-S-USB
IB-Lite	Communication module which provides additional Ethernet interface for controller	IB-Lite
IL-NT-GPRS	Communication module with integrated GSM modem with GPRS Internet connection	IL-NT-GPRS
I-LB+	Direct connection (PC) to all controllers on CAN2	I-LB+
InternetBridge-NT	Multiple Internet connections (PC and Modbus) to all controllers on CAN2 or RS485	InternetBridge-NT

Certificates and standards

<ul style="list-style-type: none"> > EN 60068-2-30:2005 25/55°C, RH 95%, 48hours > EN 61000-6-1 > EN 61000-6-2 > EN 61000-6-3 > EN 61000-6-4 > UL 6200 	 
<p>All certificates and standards are available on: webstore.iec.ch</p>	



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