ComAp

The heart of smart control

InteliLite Telecom

Order code: IL-NT TLC

Datasheet

Auto Mains Failure (AMF) Genset Controller for Telecommunications
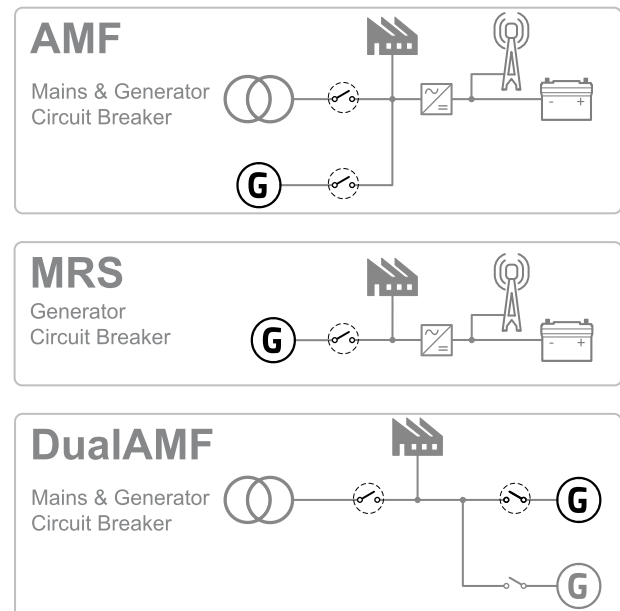
Product description

An integrated gen-set controller designed especially for telecom tower applications (both on- and off-grid). In case of power shortage, the controller can operate in a cost-effective cycling operation; in such a situation the power to the load is provided by a battery and the controller is used for battery charging management.

Key features

- ▶ Battery bank voltage sensing and Start / Stop
- ▶ Set of timers for battery bank charging
- ▶ Battery cycling management
- ▶ Fuel measurement and statistics for OPEX evaluation and battery bank maintenance
- ▶ Four additional analogue inputs; One analog output (with optional IL-NT-AIO plug-in module)
- ▶ Remote monitoring and control for optimal service intervals, fault monitoring and reduced operating expenditure
- ▶ Various communication options (Airgate, WebSupervisor, GSM/SMS, GPRS, Ethernet, Alarm emails, SNMP v1) by using optional extension modules
- ▶ Full gen-set monitoring and protection
- ▶ Outstanding EFI engines support with diagnostic messages in plain text via J1939

- ▶ Multiple languages (user changeable) in controller
- ▶ Dual mutual stand-by (Dual AMF) support
- ▶ A / B battery start support

Application overview

AMF
Mains & Generator Circuit Breaker

MRS
Generator Circuit Breaker

DualAMF
Mains & Generator Circuit Breaker

Technical data

Power supply

Power supply range	8-36 V DC
Power supply drop-out immunity	50 ms (from min. 10 V)
Power consumption	104 mA @ 8 V; 40 mA @ 36 V
Backup battery type	CR 1225
Estimated backup battery lifetime	10 years
Max. Power Dissipation	4W

Operating conditions

Operating temperature	-20-70 °C
Operating temperature (LT version available on demand)	-40-70 °C
Operating humidity	95% non-condensing (IEC/EN 60068-2-30)
Protection degree (front panel)	IP65
Vibration	5-25 Hz, +/- 1,6 mm; 25-100 Hz, a = 4 g
Shocks	a_{max} 200 m/s^2
Storage temperature	-30-80 °C

Voltage measurement

Measurement inputs	3 ph generator voltage 3 ph mains voltage
Measurement type	True RMS
Voltage range	480 V Ph-Ph (277 V Ph-N)
Max. measured voltage	340 V Ph-N
Voltage accuracy	1 % from the range
Frequency range	30-70 Hz, measured from L3
Frequency accuracy	0,05 Hz

Current measurement

Measurement inputs	3ph generator current
Measurement type	True RMS
Current range	5 A
Max. measured current	9 A
Max. allowed current	12 A continuous, 50 A/1 s
Current accuracy	2 % from the range

Binary inputs

Number	7 non-isolated
Input resistance	4,2 kΩ
Common pole	Positive, V_s = 8-36 V DC
Close/Open indication	0-2 V close contact 4 V - V_s open contact

Binary outputs

Number	7 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	1 % from the range
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

CAN	External modules 250 kbps, max 200 m Isolated

Magnetic pick-up

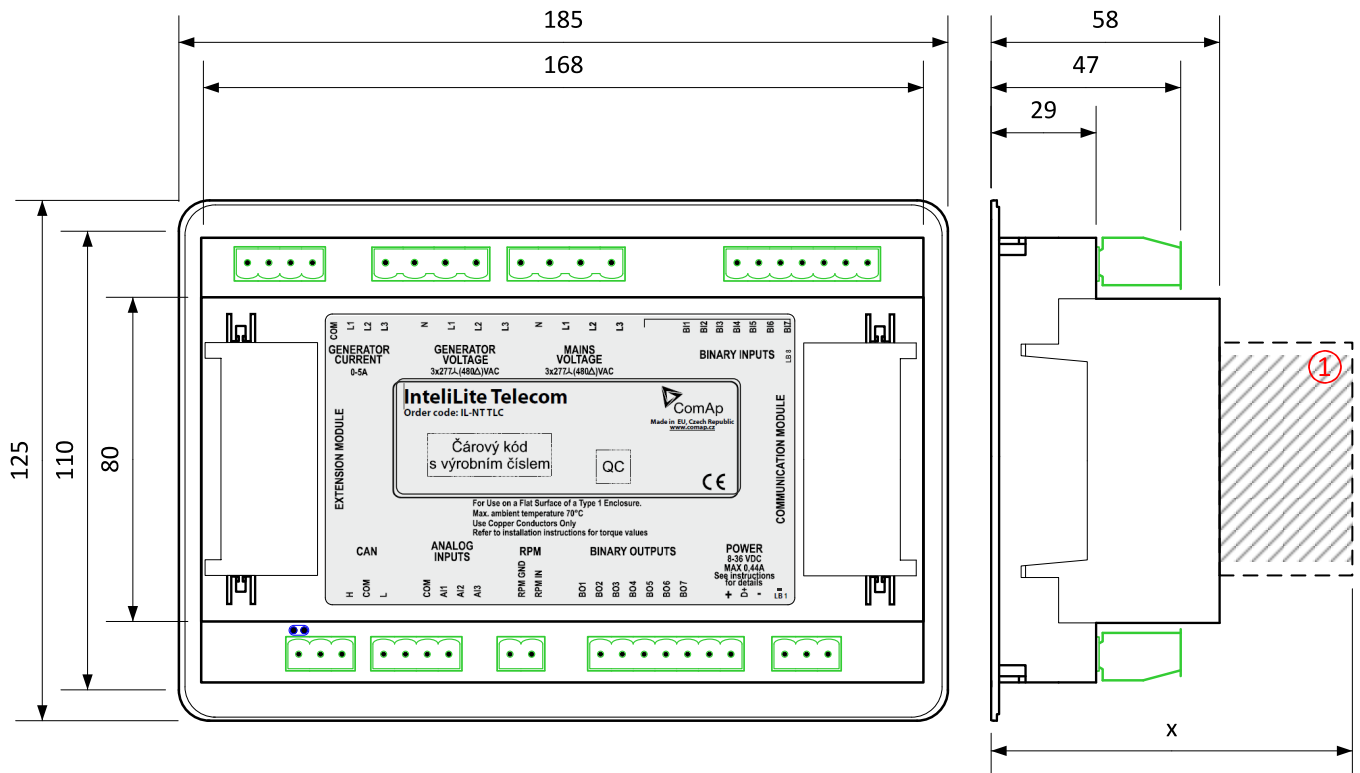|	
Voltage input range	2–70 V$_{pp}$
Frequency input range	4 Hz–10 kHz (min 2 V$_{pp}$ @ 4Hz - 4 kHz, 6 V$_{pp}$ @ 10 kHz)
Frequency measurement tolerance	0.2 %

D+

Excitation current	200 mA, during the engine start only
Charging fail threshold	80 % of U$_{supply}$
Voltage range	0-60 V (max. 70V)
Voltage accuracy	± 0.1 V

Display

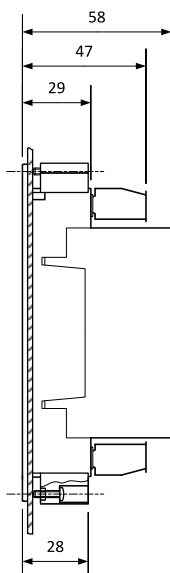|	
Type	Built-in monochromatic
Resolution	128x64

Dimensions, terminals and mounting

① Plug in module

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
IL-NT-AIO	75

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	IL-NT-AOUT8
IL-NT-BIO8	8 binary inputs in a unit (HW switchable to 8 binary outputs)	IL-NT-BIO8
IC-NT-CT-BIO7	7 binary inputs (HW switchable to 7 binary outputs) and 1 AC current measuring input	IC-NT-CT-BIO7
IG-IOM	8 binary inputs, 8 binary outputs, 4 analog inputs and 1 analog output in a unit	IG-IOM
IGS-PTM	8 binary inputs, 8 binary outputs, 4 analog inputs and 1 analog output in a unit	IGS-PTM
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-232-485
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	IB-NT
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-AIO	4 configurable analog inputs and 1 configurable analog output in a unit	IL-NT-AIO

Functions and protections

The described product fully supports the following functions and protections as defined by ANSI (American National Standards Institute):

Description	ANSI code	Description	ANSI code
Generator under/overvoltage	27+59	Generator overcurrent	51
Generator voltage asymmetry	47	Generator short current	50
Generator overload	32	Generator current unbalance	46
Generator under/overfrequency	81L+81H	Earth fault current*	50N+64
Phase sequence	47	Gas (fuel) level	71

*available with optional extension module IC-NT-CT-BIO7

Certificates and standards

▶ EN 61000-6-1 ▶ EN 61000-6-2 ▶ EN 61000-6-3 ▶ EN 61000-6-4 ▶ EN 61010-1	CE
List of standards is available on: https://webstore.iec.ch/	

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