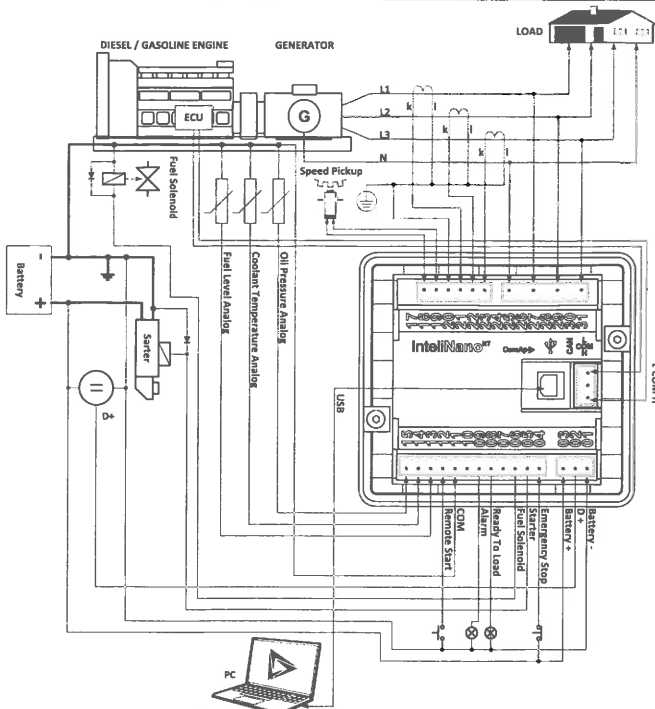


InteliNano NT MRS 3

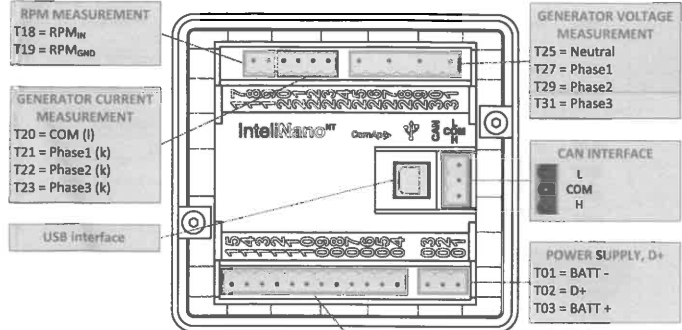
Fast User Guide

Typical wiring diagram



Dimensions

Case dimensions: 118mm x108mm x 40mm
Panel Cutout: 96mm x 96mm



INPUT / OUTPUT TERMINALS	
T10 = binary output (500 mA)	T04 = binary input – Emergency Stop
T11 = COM for analog inputs binary input	T05 = binary output – Starter (6A)
T12 = binary input – Remote Start	T06 = binary output – Fuel Solenoid (6A)
T13 = binary/analog input – Low Fuel Level	T07 = binary output (500 mA)
T14 = binary/analog input – Coolant Temperature	T08 = binary input/output (500 mA)
T15 = binary/analog input – Oil Pressure	T09 = binary output (500 mA)

WARNING!
If D+ is not used, connect this terminal to battery positive!

Accessing the setup mode

Ensure the engine is stopped and the controller is in Manual mode (the green LED above button is turned off).
If you have not configured the custom initialization (init) screen then press and hold button, then briefly press button and then button.
If you have already created your own init screen then press and hold button and then briefly press the custom init screen will appear, keep holding the button. Then press button to switch LCD to default init screen, and then press button.
To move up and down in the setup menu use and buttons. Press button to select/confirm option or button for exit.

	Basic settings		Input settings
	Engine parameters and protections		ECU setting
	Generator protections		Info
	Output settings		

Outputs and inputs

Output code	Output source	Type	Terminal assignment	Input code	Input source	Type	Terminal assignment
000	Not Used	binary	T05, T06, T07, T08, T09, T10	100	Not Used	binary	T08, T12, T13, T14, T15
001	Starter	binary	T05	101	Emergency Stop	binary	T04
002	Fuel Solenoid	binary	T06	102	Remote Start/Stop	binary	T12
003	Stop Solenoid	binary	T07, T08, T09, T10	103	Remote Start And Load	binary	T12
004	Alarm	binary	T07, T08, T09, T10	104	Access Lock	binary	T08, T12, T13, T14, T15
005	GCB Close/Open	binary	T07, T08, T09, T10	107	GCB Feedback	binary	T08, T12, T13, T14, T15
007	Ready To Load	binary	T07, T08, T09, T10	110	External Warning 1	binary	T08, T12, T13, T14, T15
008	Prestart	binary	T07, T08, T09, T10	111	External Warning 2	binary	T08, T12, T13, T14, T15
009	ECU Power Relay	binary	T07, T08, T09, T10	112	External Warning 3	binary	T08, T12, T13, T14, T15
010	Choke	binary	T07, T08, T09, T10	113	External Shutdown 1	binary	T08, T12, T13, T14, T15
011	Glow Plugs	binary	T07, T08, T09, T10	114	External Shutdown 2	binary	T08, T12, T13, T14, T15
014	Low Fuel Level Alarm	binary	T07, T08, T09, T10	115	External Shutdown 3	binary	T08, T12, T13, T14, T15
015	Common Warning	binary	T07, T08, T09, T10	120	Low Fuel Level	binary	T08, T12, T13, T14, T15
016	Common Shutdown	binary	T07, T08, T09, T10	121	Fuel Level Analog	analog	T13, T14, T15
017	Mode Auto	binary	T07, T08, T09, T10	122	Low Oil Pressure	binary	T08, T12, T13, T14, T15
	Normally Open Contact – output		Normally Closed Contact – output	123	Oil Pressure Analog	analog	T13, T14, T15
User curves							
	I21	I23	I25	124	High Coolant Temperature	binary	T08, T12, T13, T14, T15
	VDO Level %	VDO 5 Bar	VDO 40-120 °C	125	Coolant Temperature Analog	analog	T13, T14, T15
	Datcon Level %	VDO 10 Bar	VDO 50-150 °C	129	Fuel Level SD	binary	T08, T12, T13, T14, T15
		Datcon 5 Bar	Datcon High		Normally Open Contact – input		Normally Closed Contact – input
		Datcon 7 Bar	Datcon Low				
		Datcon 10 Bar					
	Not selected	Not selected	Not selected				

Setpoints

Use and buttons to move or change value. button to select setpoint or confirm changes and button to go back.

Basic settings		
Setpoint code	Setpoint name	
B01	Nominal Voltage Ph-N	80–480 V
B02	Nominal Voltage Ph-Ph	80–600 V
B03	Nominal Frequency	50 Hz (1), 60 Hz (2)
B11	Nominal RPM	100–4000
B14	Gear Teeth	0–300
B04	Connection Type	Mono Phase (1), SplitPhase (2), 3Ph3Wire (3), 3Ph4Wire (4), Autodetect (5)
B05	Units Format	Metric unit format (1), US unit format (2)
B07	Zero Power Mode Delay	0–360 min
B08	Light Tower Mode	Disable (1), Enable (2)
B12	CT Connected	Yes (1), No (2)
B09	Nominal Current	1–1000 A
B10	CT Ratio	1–5000 A/5A
B13	Nominal Power	1–500 kW

Engine parameters and protections		
Setpoint code	Setpoint name	
E01	Prestart Time	0–600 s
E12	Cranking Attempts	1–10
E02	Maximum Cranking Time	0–60 s
E03	Cooling Time	0–3600 s
E04	Oil Pressure Shutdown	0.0–10.0 Bar
E05	Coolant Temperature Shutdown	0–150 °C
E15	Fuel Level Shutdown	0–20 %
E06	Battery Undervoltage	8.0–40.0 V
E07	Warning Maintenance	0–10000 h
E08	Oil Pressure Starter Disengagement	Disable (1), Enable (2)
E09	Choke Time	0–3600 s
E10	Minimal Stabilization Time	1–300 s
E11	Starting RPM	5–60 %
E13	Low Battery Start	Disable (1), Enable (2)
E14	Low Battery Running Time	1–240 min

Generator protections		
Setpoint code	Setpoint name	
G01	Generator Overvoltage Shutdown	G02–200 %
G02	Generator Undervoltage Shutdown	0–G01 %
G03	Generator Overfrequency Shutdown	G04–200.0 %
G04	Generator Underfrequency Shutdown	0.0–G03 %
G05	Generator Short Circuit Shutdown	100–500 %
G06	Generator Short Circuit Delay	0.00–100.00 s
G07	Generator Overload Shutdown	70–130 %
G08	Generator Overload Delay	1–300 s

To apply all changes, return to the main setup menu and restart the controller by pressing the button.

Alarms and Events

Events		Warnings		Shutdowns		Shutdowns	
	Manual Start		Warning Maintenance		Emergency Stop		Generator Undervoltage
	Remote Start		Low Battery		Overspeed		Generator Overfrequency
	Manual Stop		Low Fuel Level		Underspeed		Generator Underfrequency
	Remote Stop		External Warning 1		Low Oil Pressure		Generator Overload
	Auto On		External Warning 2		High Coolant temperature		Generator CCW Rotation
	Auto Off		External Warning 3		External Shutdown 1		Start Fail
	Power On		ECU Communication Error		External Shutdown 2		Stop Fail
	Island Operation				External Shutdown 3		Battery Flat
	Start on Low Battery				GCB Fail		Fuel Level SD
	Stop After Charging Cycle				Generator Overvoltage		

ECU

For ECU configuration use PC software NanoEdit. For more details see IntelliNano MRS 3 Reference Guide.

Technical data

Power supply range	8–36 VDC	Operating temperature	–20 to 70 °C
Power supply drop-out immunity	100 ms	Operating humidity	95 % non-condensing (IEC/EN 60068-2-30)
Power consumption	35 – 295 mA	Protection degree (front panel)	IP65 with GASKET 4x405 only
Zero Power Mode consumption	52 - 344 µA		IP50 without gasket
Binary outputs (up to 6)		Storage temperature	–30 to 80 °C
Low current outputs (4)	500 mA	Generator measurements	
High current output (2)	6 A (long term) / 10 A (short term)	Measurement input	3ph generator voltage
Total output current	10 A (long term) / 16 A (short term)	Measurement type	True RMS
Binary inputs (up to 6)		Voltage range	480 V Ph-Ph (277 V Ph-N)
Input resistance	1.5 kΩ	Max. measured voltage	340 V Ph-N
Closed contact voltage	< 2 V	Voltage accuracy	1 %
Open contact voltage	> 3.5 V	Current nominal/max. value	5 A / 10 A
Analog inputs (up to 3)		Current accuracy	1 %
Galvanic insulation	Not insulated	Frequency range	40–70 Hz
Electrical range	0–2500 kΩ	Frequency accuracy	±0.1 Hz
Resolution	0.1 Ω	Magnetic pick-up	
Precision	2 % ± 5 Ω		
Charging alternator preexcitation circuit		Voltage input range	4 V _{pk-pk} to 50 V _{pk-pk} (4 Hz–1 kHz)
Excitation current	250 mA typical		6 V _{pk-pk} to 50 V _{pk-pk} (1–5 kHz)
Charging fail threshold	80 %		10 V _{pk-pk} to 50 V _{pk-pk} (5–10 kHz)
		Frequency input range	4 Hz–10 kHz
		Frequency accuracy	0.1 %