

TCM01 CONTROL PANEL

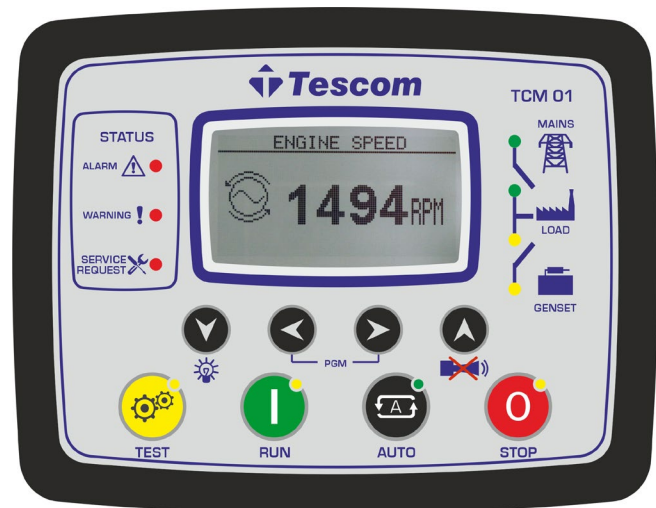
The TCM01 is a cost effective modular genset controller ready for internet monitoring through plug-in modules.

FEATURES

- Diesel and gas genset support
- 400Hz operation support
- 400 event logs, full snapshot
- All parameters front panel editable
- 3 level configuration password
- 128x64 graphical LCD display
- Downloadable languages
- Waveform display of V & I
- Harmonic analysis of V & I
- 16Amp MCB & GCB outputs
- 8 configurable digital inputs
- 6 configurable digital outputs
- 3 configurable analog inputs
- Both CANBUS-J1939 & MPU
- 3 configurable service alarms
- Multiple automatic exerciser
- Weekly operation schedule
- Dual mutual standby with equal aging of gensets
- Manual "speed fine adjust" on selected ECUs
- Automatic fuel pump control
- Disable protections feature
- Excess power protection
- Reverse power protection
- Overload IDMT protection
- Load shedding, dummy load
- Multiple load management
- Current unbalance protection
- Voltage unbalance protection
- Fuel filling & fuel theft alarm
- Battery back-up real time clock
- Idle speed control
- Battery charge run enabled
- Combat mode support
- Multiple nominal conditions
- Contactor & MCB drive
- 4 quadrant genset power counters
- Mains power counters
- Fuel filling counter
- Fuel consumption counter
- Modem diagnostics display
- Configurable through USB, RS-485, Ethernet and GPRS
- Free configuration program
- Allows SMS controls
- Ready for central monitoring
- Mobile genset support
- Automatic GSM geo-location
- Easy USB firmware upgrade
- -40°C operation with optional display heater
- IP65 rating with optional gasket

MEASUREMENTS

- Mains & genset PN/PP voltages
- Mains & genset frequency
- Mains & genset phase currents
- Mains & genset neutral currents
- Mains & genset, phase & total, kW, kVA, kVAR, pf
- Engine speed
- Battery voltage
- Contactor & MCB drive
- 4 quadrant genset power counters
- Mains power counters
- Fuel filling counter
- Fuel consumption counter



PLUG-IN MODULES

- GSM Modem (2G-3G-4G)
- Ethernet 100Mbps
- Wi-Fi (802.11 b/g/n)
- RS-485 (2400-57600baud)
- RS-232 (2400-57600baud)

FUNCTIONALITIES

- AMF unit
- ATS unit
- Remote start controller
- Manual start controller
- Engine controller

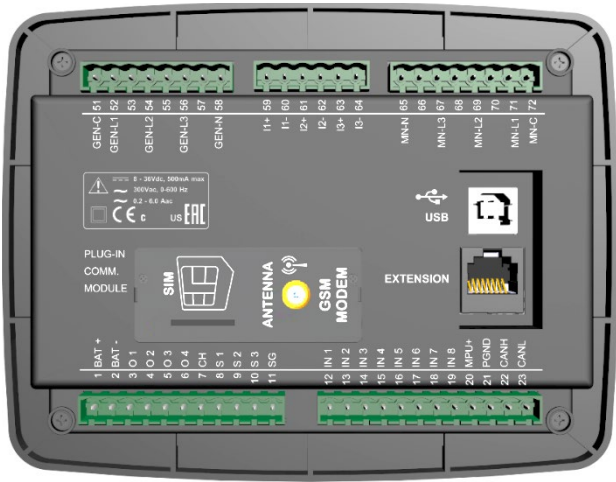
TOPOLOGIES

- 3 ph 4 w, star & delta
- 3 ph 3 w, 2 CTs
- 2 ph 3 w
- 1 phase 2 wires

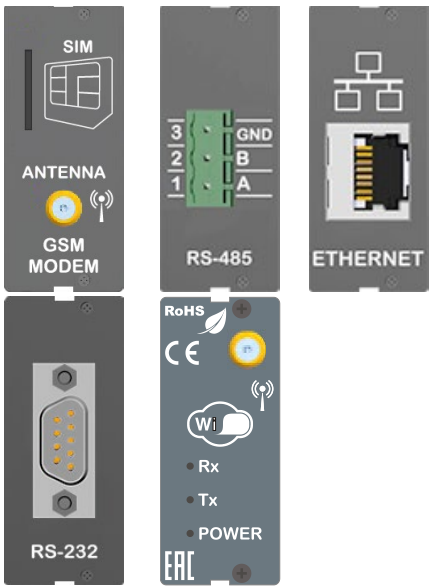
COMMUNICATION

- USB Device
- J1939-CANBUS
- Geo-locating through GSM
- Internet Central Monitoring
- SMS message sending
- E-mail sending
- Free PC software: Rainbow Plus
- Modbus RTU (2400-57600baud)
- Modbus TCP/IP

PLUG-IN MODULES

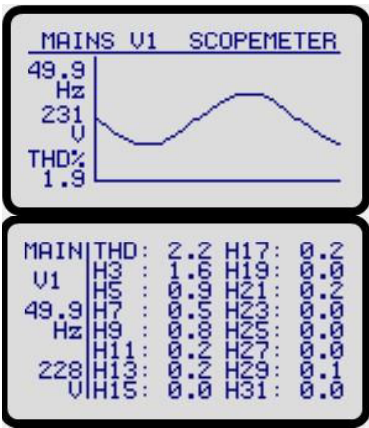


Backpanel View

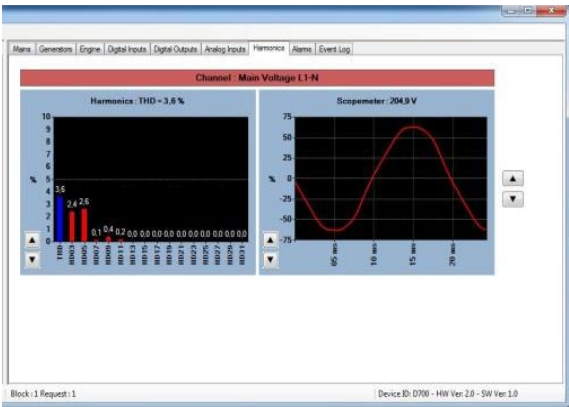


Plug-in Modules

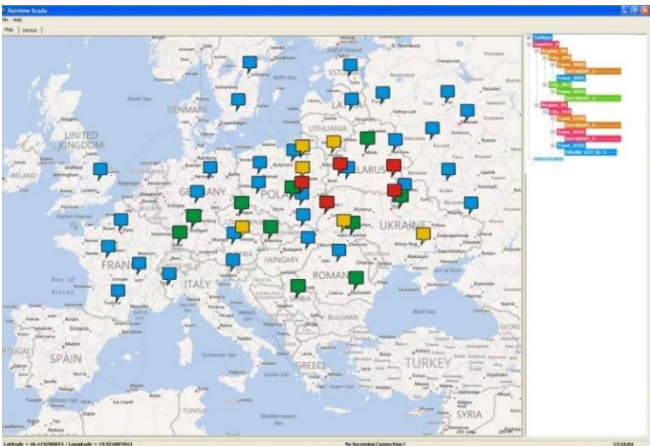
SCOPEMETER & HARMONICS



RAINBOW PLUS PROGRAM



RAINBOW SCADA CENTRAL MONITORING

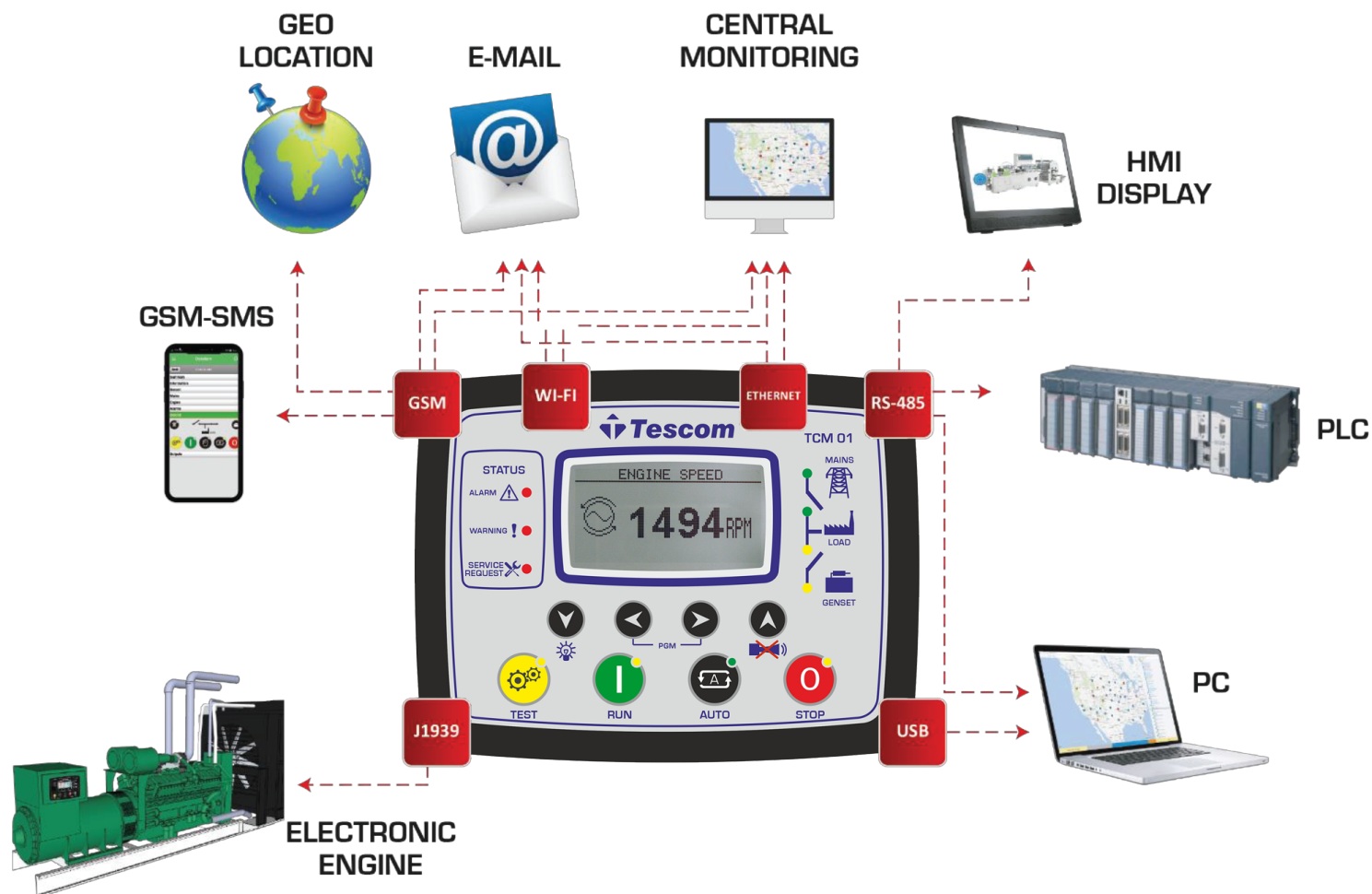


Display on Map, online monitoring



Smartphone Support

COMMUNICATIONS



TECHNICAL SPECIFICATIONS

Alternator voltage: 0 to 300 V-AC (Ph-N)	Operating temperature: -20°C to 70°C (-4 to +158 °F) With optional display heater: -40°C to 70°C (-40 to +158 °F)
Alternator frequency: 0-600 Hz.	Storage temperature: -40°C to 80°C (-40 to +176°F)
Mains voltage: 0 to 300 V-AC (Ph-N)	Maximum humidity: 95% non-condensing.
Mains frequency: 0-600 Hz.	IP Protection: IP65 from front panel, IP30 from the rear (with gasket)
Topology: 1-2-3 phases, with or without neutral	Dimensions: 180 x 140 x 46mm (WxHxD)
DC Supply Range: 8.0 to 36.0 V-DC.	Panel Cut-out Dimensions: 151 x 111 mm minimum.
V-A-cos Accuracy: 0.5% + 1 digit	Weight: 300 g (approx.)
kW-kVA-kVAr Accuracy: 1.0% + 1 digit	Case Material: High Temperature, non-flammable ABS/PC
Current consumption: 180 mA-DC max @ 12V-DC	Installation: Flat surface mounting on a Type 1 enclosure. Rear retaining plastic brackets.
Current Inputs: current transformers. ../5A or ../1A.	
Digital inputs: input voltage 0 to 36 V-DC.	
Analog input range: 0-5000 ohms.	
Mains and genset contactor outputs: 16Amps@250V	
DC Outputs: Protected mosfet semiconductor outputs, rated 1Amp@28V-DC	
Cranking dropouts: survives 0V for 100ms.	
Magnetic pickup voltage: 0.5 to 50VAC.	
Magnetic pickup frequency: 0 to 10000 Hz.	
Charge Alternator Excitation: 2W.	
Display Screen: 2.9", 128x64 pixels	
USB Device: USB 2.0 Full speed	
CONFORMITY	
EU Directives Conformity	
- 2014/35/EC (low voltage)	
-2014/30/EC (electro-magnetic compatibility)	
Norms of reference:	
EN 61010 (safety requirements)	
EN 61326 (EMC requirements)	
UL & CSA Compatibility:	
-UL 6200, Controls for Stationary Engine Driven Assemblies (Certificate # - 20140725-E314374)	
-CAN/CSA C22.2 No. 14-13 – Industrial Control Equipment	

TYPICAL CONNECTIONS

