
















## Generator Set Controllers Protection, Control and Metering

Generator Set Controllers  
Remote Control & Visualisation  
Gencharger

	Automatic Gen-Set Controller with Transfer Switching & Load Sharing .....	4
	Automatic Transfer & Load Share Unit with Mains .....	6
	Auto Start Load Share Unit .....	8
	Automatic Gen-Set Controller with Transfer Switching .....	10
	Automatic Gen-Set Controllers .....	16
	Automatic Transfer Switching Controllers .....	22
	Manuel Key Start & Engine Protection with Key Switch .....	25
	Expansion Modules .....	27
	Communication Modules & Battery Chargers .....	31
	Remote Control & Visualisation Software .....	32

						
	Trans-AMF.SYNCRO	Trans-MAINS	Trans-SYNCRO	Trans-AMF	Trans-Midi.AMF	Trans-Mini.AMF
Dimensions	276x189mm	276x189mm	276x189mm	229x152mm	158x111mm	111 x 81mm
Synchronising	Mains & Gen	Mains	Gen	Synchronization Check	Synchronization Check	-
Mains Voltage	3Ph	3Ph	-	3Ph	3Ph	3Ph
Gen Voltage	3Ph	-	3Ph	3Ph	3Ph	1Ph
Current	3Ph Gen 1Ph Mains	3Ph Mains 1Ph Load	3Ph Gen	3Ph Gen	3Ph Gen	1Ph Gen
Mag.PickUp	+	-	+	+	/+	/+
CanBus J-1939	+	-	+	+	/+	/+
Configurable Inputs	13	13	13	7	5	3
Remote Start Input	conf	-	conf	conf	conf	conf
Oil Pressure Input	Sender or Alarm	-	Sender or Alarm	Sender or Alarm	Sender or Alarm	Sender or Alarm
Temperature Input	Sender or Alarm	-	Sender or Alarm	Sender or Alarm	Sender or Alarm	Sender or Alarm
Aux. Sender Input	2	-	2	2	1	1
Charg.Alt.Input	+	-	+	+	+	+
Configure Outputs	7	9	7	4	4	4
Crank output	+	-	+	1	1	1
Solenoid output	+	-	+	1	1	1
MCB out	+	+	-	+	+	+
GCB out	+	-	+	+	+	+
Communication	USB, Ethernet RS485	USB, CanOpen Ethernet,RS485	USB, CanOpen Ethernet,RS485	USB	RS232 RS485	RS-232
I/O Expansion Module	/+	/+	/+	/+	-	-
Remote monitoring Modules	Messenger WEB-Ethernet WEB-GPRS GPRS	Messenger WEB-Ethernet WEB-GPRS GPRS	Messenger WEB-Ethernet WEB-GPRS GPRS	Messenger WEB-Ethernet WEB-GPRS GPRS RS-485	N/A	N/A

						
Trans-Auto	Trans-Midi.Auto	Trans-Mini.Auto	Trans-Mini Auto++	Trans-ATS	Trans-Mini.ATS	Trans-MiniPump
229x152mm	158x111mm	111x81mm	111x81mm	229x152mm	111x81mm	111x81mm
-	-	-	-	-	-	-
N/A	N/A	N/A	N/A	3Ph	3Ph	-
3Ph	3Ph	1Ph	3Ph	3Ph	1Ph	-
3Ph Gen	3Ph Gen	1Ph Gen	3Ph Gen	3Ph Load	1Ph Load	-
+	/+	/+	/+	-	-	+
+	/+	/+	/+	-	-	-
7	5	3	3	8	5	3
conf	conf	conf	conf	-	-	1
Sender or Alarm	Sender or Alarm	Sender or Alarm	Sender or Alarm	N/A	N/A	Sender or Alarm
Sender or Alarm	Sender or Alarm	Sender or Alarm	Sender or Alarm	N/A	N/A	Sender or Alarm
2	1	1	1	-	-	1
+	+	+	+	N/A	N/A	1
4	4	4	4	6	6	5
1	1	1	1	N/A	N/A	1
1	1	1	1	N/A	N/A	1
N/A	N/A	N/A	N/A	+	+	-
+	+	conf	+	+	+	-
USB	RS-232 RS-485	RS-232	RS-232	USB	RS-232	RS-232
/+	-	-	-	/+	-	-
Messenger WEB-Ethernet WEB-GPRS GPRS RS-485	N/A	N/A	N/A	Messenger WEB-Ethernet WEB-GPRS GPRS RS-485	N/A	N/A

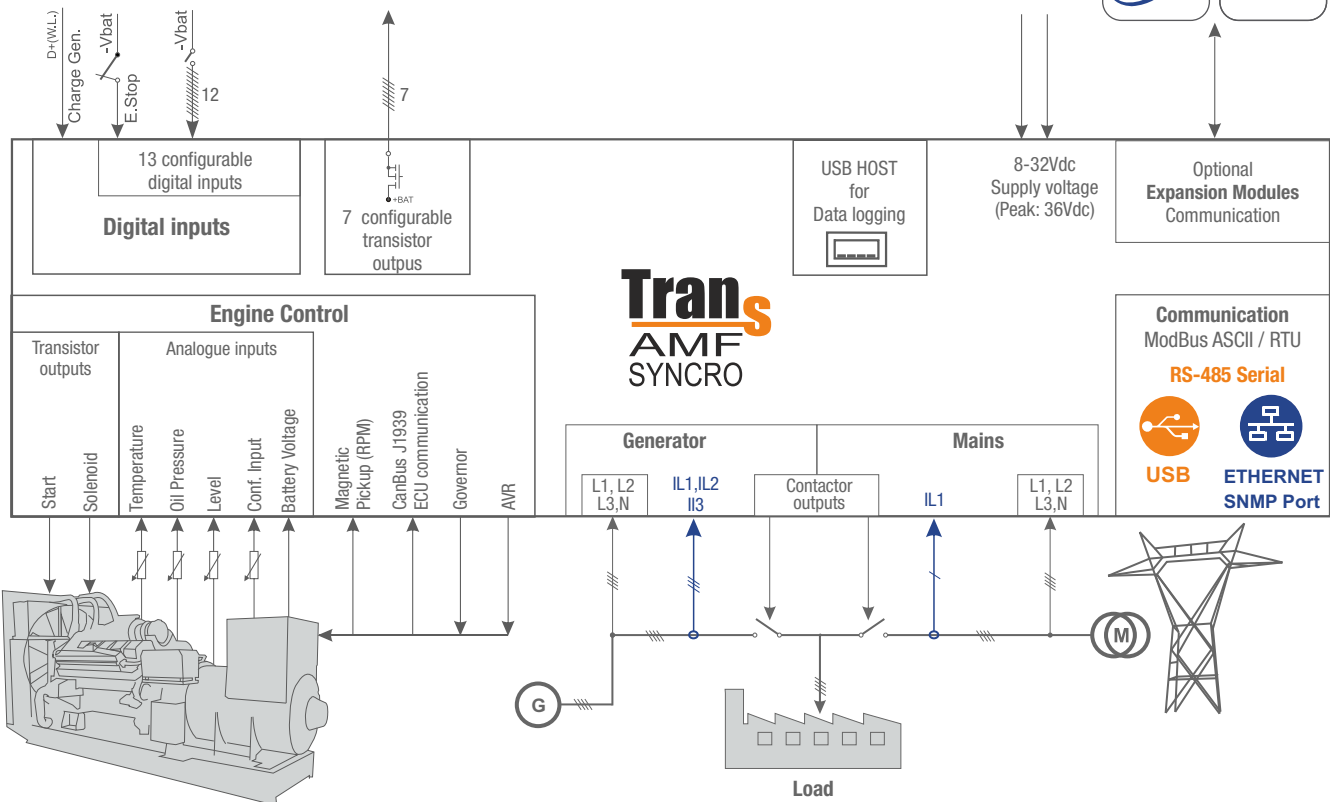
**Automatic Gen-Set Controller  
with Transfer Switching & Load  
Sharing**



- Mains voltages and frequency measurements
- Generator voltages and frequency measurements
- Peak lopping (mains or genset)
- Power export to mains
- Mains de-coupling protection with R.O.C.O.F and vector shift methods
- Manual voltage/frequency adjustment
- Direct/Reverse Governor and AVR control
- Auto adjust feature for Governor and AVR
- Volts, frequency and phase matching
- Synchroscope display
- Logic Controller functionality for PLC



- ▶ **Pre-Alarm**
  - Engine temperature
  - Oil pressure
  - Fuel level
  - Over / Under voltage
  - Over / Under frequency
  - Over / Under speed
- ▶ **Warning & Electrical trip**
  - Earth fault
  - Over current
  - Short circuit
  - Mains rocof
  - Mains vector shift
- ▶ **Alarm**
  - Generator breaker not opened
  - Generator breaker not closed
  - Mains breaker not opened
  - Mains breaker not closed
- ▶ **Controls**
  - Fuel and Stop solenoid
  - ECU power and stop
  - Starter motor
  - Automatic generator start
  - Preheat
  - External alarm horn
  - Engine cooling
  - Idle mode
  - Mains supply
  - Load transfer
  - Load sharing
- ▶ **Fail Monitoring**
  - Mains failure
  - Emergency stop
  - Failed to start
  - Low oil pressure
  - High temperature
  - Speed failure
  - Voltage failure
  - Charging fail
  - Shutdown
  - Warning
- ▶ **Error**
  - Synchronising
  - Over / Under speed
  - Speed loss
  - Earth fault
  - Fuel level
  - Battery low
  - Battery high
  - Maintenance
  - Over current
  - Short circuit
  - Engine stop
  - CanBus
  - Charge alternator



Dimensions	: 276 mm x 189 mm x 45 mm. (including connectors). Plastic housing for panel mounting.
Panel Cut-Out	: 223mm x 162mm.
Protection	: IP65 at front panel.
Weight	: Approximately 0,82 Kg.
Environmental Rating	: Standard, indoor at an altitude of less then 2000 meters with non-condensing humidity.
Operating/Storage Temperature	: -20°C to +70°C / -30°C to +80°C
Operating/Storage Humidity	: 95% max. (non-condensing)
DC Battery Supply Voltage	: 8 to 32 Vdc (Peak: 36Vdc) Max. operating current is 860 mA.
CT Secondary	: 5A.
Sender Measurement	: 0 to 1300 ohm, accuracy: 1 % FS, resolution: 1 ohm.
Communication Interface	: USB programming and communication port, Ethernet, RS485.

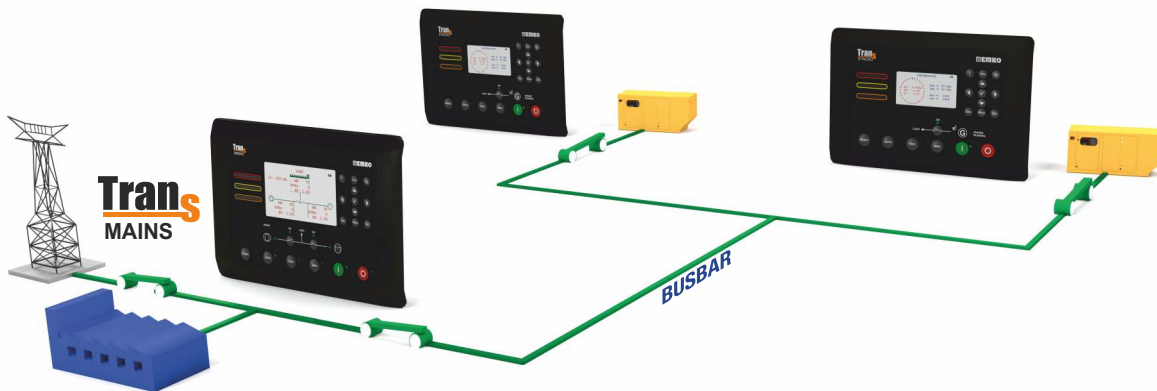
Order Information	
<b>Trans-AMF.SYNCRO</b>	Synchronising & Automatic Mains Failure Unit for Generators with J1939 ECU communication

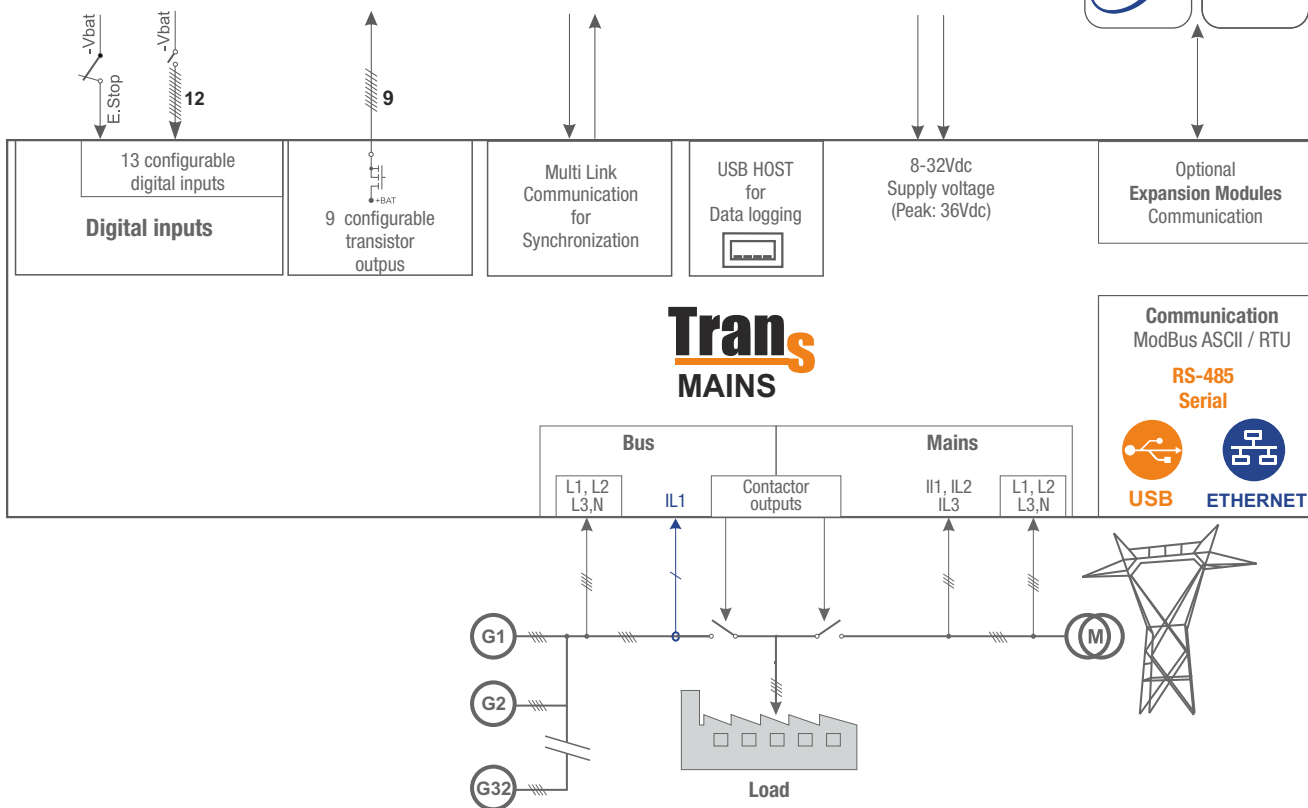
**Automatic Transfer & Load Share Unit with Mains**



- Load sharing with genset (up to 32 gensets)
- Busbar voltages and frequency measurements
- Bus failure detection
- Peak lopping (mains or genset)
- Power export to mains
- Mains de-coupling protection with R.O.C.O.F and vector shift methods
- Volts, frequency and phase matching
- Synchroscope display
- Logic Controller functionality for PLC

- ▶ **Warning & Electrical Trip**
  - Mains rocof
  - Mains vector shift
  - Minimum genset
- ▶ **Fail Monitoring**
  - Emergency stop
  - Mains failure
  - Bus failure
- ▶ **Alarm**
  - Bus breaker not opened
  - Bus breaker not closed
  - Mains breaker not opened
  - Mains breaker not closed
- ▶ **Error**
  - Battery low
  - Battery high
  - Can open
  - Synchronization
  - Minimum genset
- ▶ **Controls**
  - Mains supply
  - Automatic genset start
  - Load transfer
  - Load sharing





Dimensions	: 276 mm x 189 mm x 45 mm. (including connectors). Plastic housing for panel mounting.
Panel Cut-Out	: 223mm x 162mm.
Protection	: IP65 at front panel.
Weight	: Approximately 0,82 Kg.
Environmental Rating	: Standard, indoor at an altitude of less then 2000 meters with non-condensing humidity.
Operating/Storage Temperature	: -20°C to +70°C / -30°C to +80°C
Operating/Storage Humidity	: 95% max. (non-condensing)
DC Battery Supply Voltage	: 8 to 32 V dc (Peak: 36Vdc) Max. operating current is 860 mA.
CT Secondary	: 5A.
Sender Measurement	: 0 to 1300 ohm, accuracy: 1 % FS, resolution: 1 ohm.
Communication Interface	: USB programming and communication port, CanOpen, Ethernet, RS485.

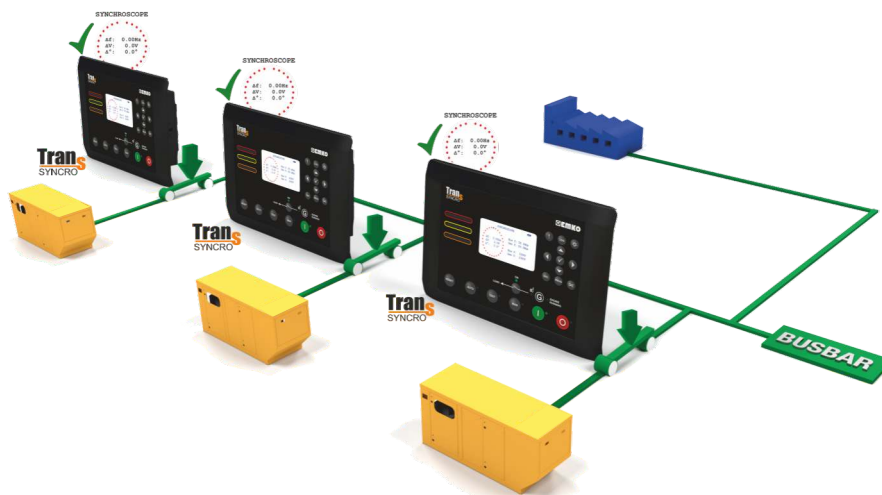
Order Information	
Trans-MAINS	Synchronising & Automatic Transfer Switch



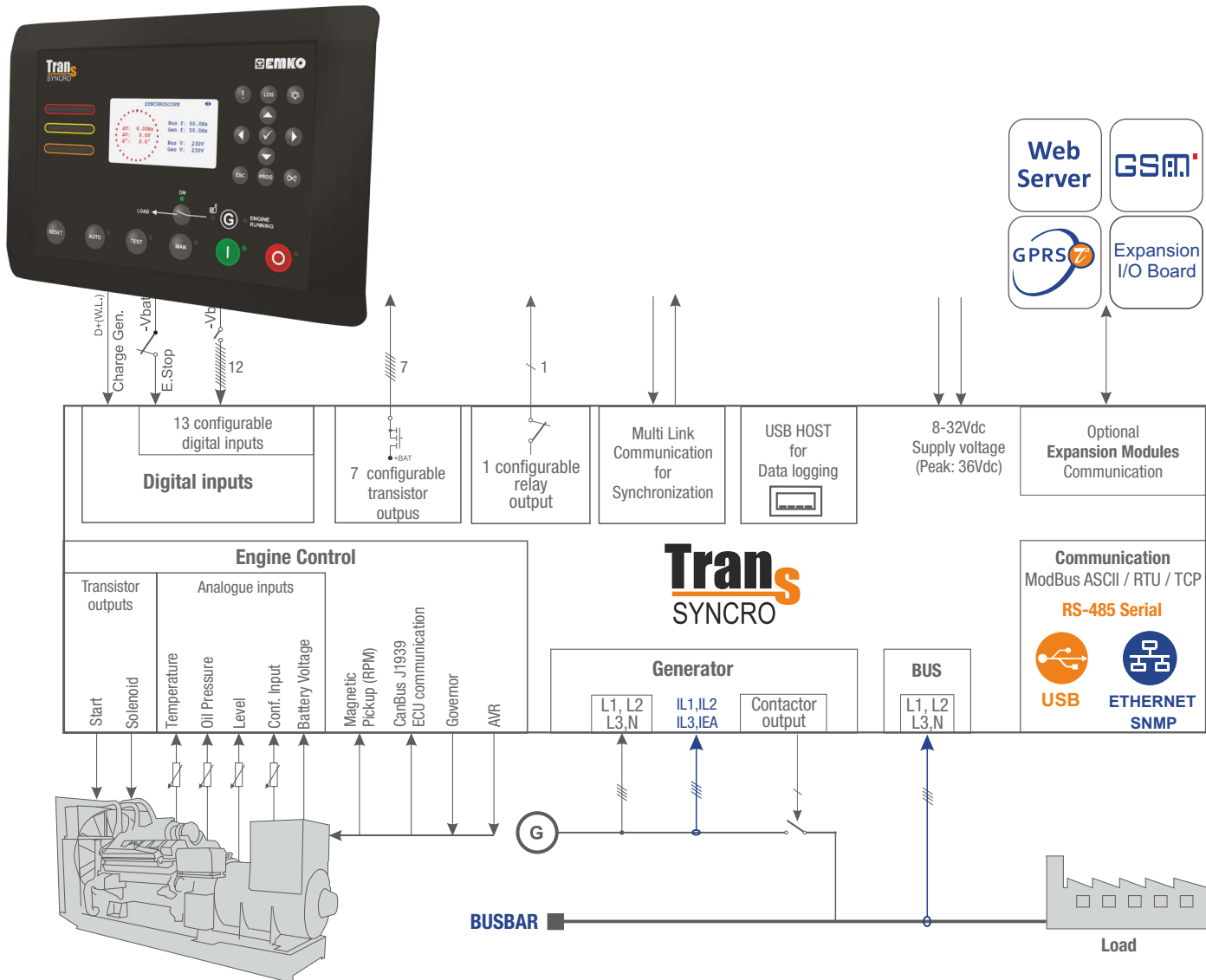
**Auto Start  
Load Share Unit**



- Multi genset load sharing (up to 32 gensets)
- kW and kVAr load sharing
- Busbar voltages and frequency measurements
- Dead bus sensing
- Bus failure detection
- Sequential set start
- Manual voltage/frequency adjustment
- Load dependent automatic Start/Stop
- Equal aging of gensets
- Direct/Reverse governor and AVR control
- Volts, frequency and phase matching
- Synchroscope display
- Logic Controller functionality for PLC
- SNMP feature for ethernet communication



- ▶ **Pre-Alarm**
  - Engine temperature
  - Oil pressure
  - Fuel level
  - Over / Under voltage
  - Over / Under frequency
  - Over / Under speed
- ▶ **Warning & Electrical trip**
  - Earth fault
  - Over current
  - Short circuit
- ▶ **Alarm**
  - Generator breaker not opened
  - Generator breaker not closed
- ▶ **Controls**
  - Fuel and Stop solenoid
  - ECU power and stop
  - Starter motor
  - Automatic generator start
  - Preheat
  - External alarm horn
  - Engine cooling
  - Idle mode
- ▶ **Fail Monitoring**
  - Emergency stop
  - Failed to start
  - Low oil pressure
  - High temperature
  - Speed failure
  - Voltage failure
  - Charging fail
  - Shutdown
  - Warning
- ▶ **Error**
  - Over / Under speed
  - Speed loss
  - Earth fault
  - Fuel level
  - Battery low
  - Battery high
  - Maintenance
  - Over current
  - Short circuit
  - Engine stop
  - CanBus
  - Charge alternator



Dimensions	: 276 mm x 189 mm x 45 mm. (including connectors). Plastic housing for panel mounting.
Panel Cut-Out	: 223mm x 162mm.
Protection	: IP65 at front panel.
Weight	: Approximately 0,82 Kg.
Environmental Rating	: Standard, indoor at an altitude of less then 2000 meters with non-condensing humidity.
Operating/Storage Temperature	: -20°C to +70°C / -30°C to +80°C
Operating/Storage Humidity	: 95% max. (non-condensing)
DC Battery Supply Voltage	: 8 to 32 V dc (Peak: 36Vdc) Max. operating current is 860 mA.
CT Secondary	: 5A.
Sender Measurement	: 0 to 1300 ohm, accuracy: 1 % FS, resolution: 1 ohm.
Communication Interface	: USB programming and communication port, CanBus communication with 1939 ECU, CanOpen, Ethernet, RS485.

Order Information	
<b>Trans-SYNCRO</b>	Synchronising & Load Sharing Unit For Gas/Diesel/Gasoline Generators with J1939 ECU communication

## Automatic Gen-Set Controllers with Transfer Switching



- CanBus J1939 ECU communication
- Parameter configuration via USB port of your notebook
- Authorised access, secure communication
- Selectable second language
- Log last 500 events & alarm information with measured values
- Statistics records
- Mains and Generator phase sequence control
- Remote Start/Stop, Speed and Idle mode control via J1939
- Power factor measurement for 3 phases
- 4 resistive sender inputs for Level, Temperature, Oil Pressure and Spare
- Selectable Resistive sender types; Pt-100, VDO, US, GM, Ford, Datcon, etc..
- Speed sensing from alternator voltage or magnetic pickup
- 3 phase Load current and earth current measurement
- Configurable 7 inputs and 4 outputs
- ECU power, ECU stop, Stop or Fuel solenoid selection
- Programmable weekly working permit calendar
- Maintenance warning, Red (Shutdown) and Yellow (Warning) alarm lights
- Navigation and Shortcut buttons for easy use
- Exercise at daily programmed time intervals
- Load Test selection
- Automatic transfer switching control and engine control
- Compatible to Diesel or Gas generators
- Auto, Manual and Test modes
- Active, Reactive, Apparent power measurement
- Adjustable Start and Stop timers
- SPN, FMI and OC values reading from engines via J1939

### ► Pre-Alarm

- Engine temperature
- Oil pressure
- Fuel level
- Over / Under voltage
- Over / Under frequency
- Over / Under speed

### ► Warning & Electrical trip

- Earth fault
- Over current
- Short circuit

### ► Alarm

- Mains breaker not opened
- Mains breaker not closed
- Generator breaker not opened
- Generator breaker not closed

### ► Controls

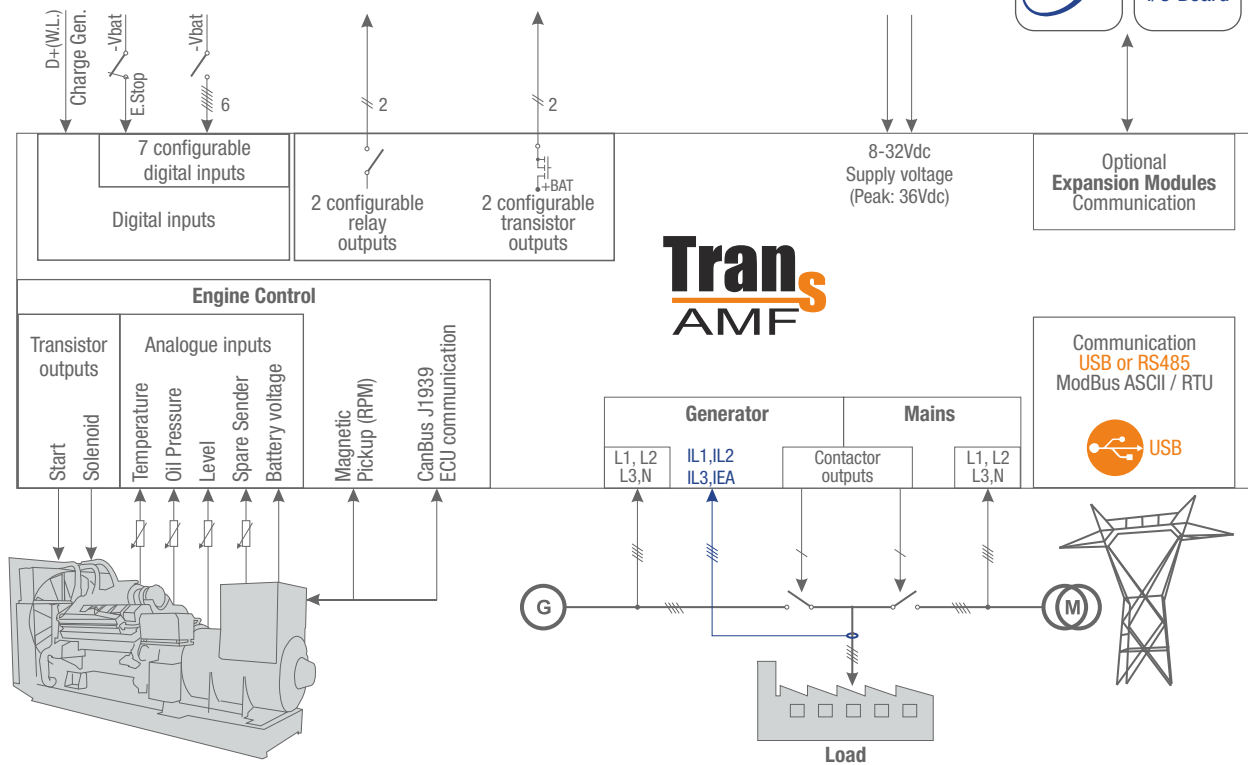
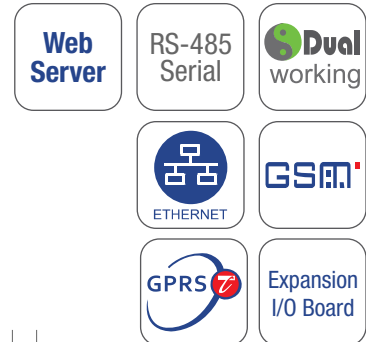
- Fuel and Stop solenoid
- ECU power and stop
- Starter motor
- Automatic generator start
- Load transfer to mains
- Preheat
- External alarm horn
- Engine cooling
- Idle mode

### ► Fail Monitoring

- Emergency stop
- Failed to start
- Low oil pressure
- High temperature
- Speed failure
- Voltage failure
- Charging fail
- Shutdown
- Warning

### ► Error

- Over / Under speed
- Speed loss
- Earth fault
- Fuel level
- Battery low
- Battery high
- Maintenance
- Over current
- Short circuit
- Engine stop
- CanBus
- Charge alternator



- Dimensions : 229mm x 152mm x 41mm
- Panel Cut-Out : 182mm x 135mm
- Protection : Ip65 at front panel
- Weight : Approximately 0,53Kg
- Operating/Storage Temperature : -20°C to +70°C / -30°C to +80°C
- Operating/Storage Humidity : 95% max. (non-condensing)
- DC Battery Supply Voltage : 8 to 32Vdc (Peak: 36Vdc), max. operating current is 360mA
- CT Secondary : 5A
- Sender Measurement : 0 to 1300 ohm, accuracy: 1%FS, resolution: 1 ohm

Order Information	
<b>Trans-AMF</b>	Automatic Gen-Set controller with transfer switching, LCD display, J1939 ECU communication
<b>Trans-AMF.RS485</b>	Automatic Gen-Set controller with transfer switching, LCD display, J1939 ECU communication, RS485 communication

## Automatic Gen-Set Controllers with Transfer Switching

Local  
Remote  
Control

Parameter configuration via RS-232 port of your notebook  
 Authorised access, secure communication  
 Selectable second language  
 Log last 50 events & alarm information with measured values  
 Statistics records  
 Mains & Generator phase sequence control  
 3 phase mains voltage measurement  
 Power factor measurement for 3 phases  
 3 resistive sender inputs for Level, Temperature, Oil Pressure  
 Selectable Resistive sender types; Pt-100 VDO, US, GM, Ford, Datcon, etc...  
 Speed sensing from alternator voltage or magnetic pickup  
 CanBus J1939 ECU communication  
 SPN, FMI and OC values reading from engines via J1939  
 Remote Start/Stop Speed and Idle mode Control via J1939  
 Load Test selection  
 Compatible to Diesel, Gas or Gasoline generators  
 Auto, Manual and Test modes  
 Active, Reactive, Apparent power measurement  
 Adjustable Start and Stop timers  
 3 phase Load current measurement  
 Configurable 5 inputs and 4 outputs  
 Local Remote Control and Visualisation function

Dimensions	: 158mm x 111mm x 67mm
Panel Cut-Out	: 120mm x 94mm
Protection	: Ip65 at front panel
Weight	: Approximately 0,26Kg
Operating/Storage Temperature	: -20°C to + 70°C / -30°C to +80°C
Operating/Storage Humidity	: 95% max. (non-condensing)
DC battery supply voltage	: 8 to 32Vdc (Peak: 36Vdc), max. operating current is 370mA
CT Secondary	: 5A
Sender Measurement	: 0 to 1300 ohm, accuracy: 1%FS, resolution: 1 ohm



### ▶ Pre-Alarm

Engine temperature  
 Oil pressure  
 Fuel level  
 Over / Under voltage  
 Over / Under frequency  
 Over / Under speed

### ▶ Warning & Electrical trip

Over current  
 Short circuit

### ▶ Alarm

Mains breaker not opened  
 Mains breaker not closed  
 Generator breaker not opened  
 Generator breaker not closed

### ▶ Controls

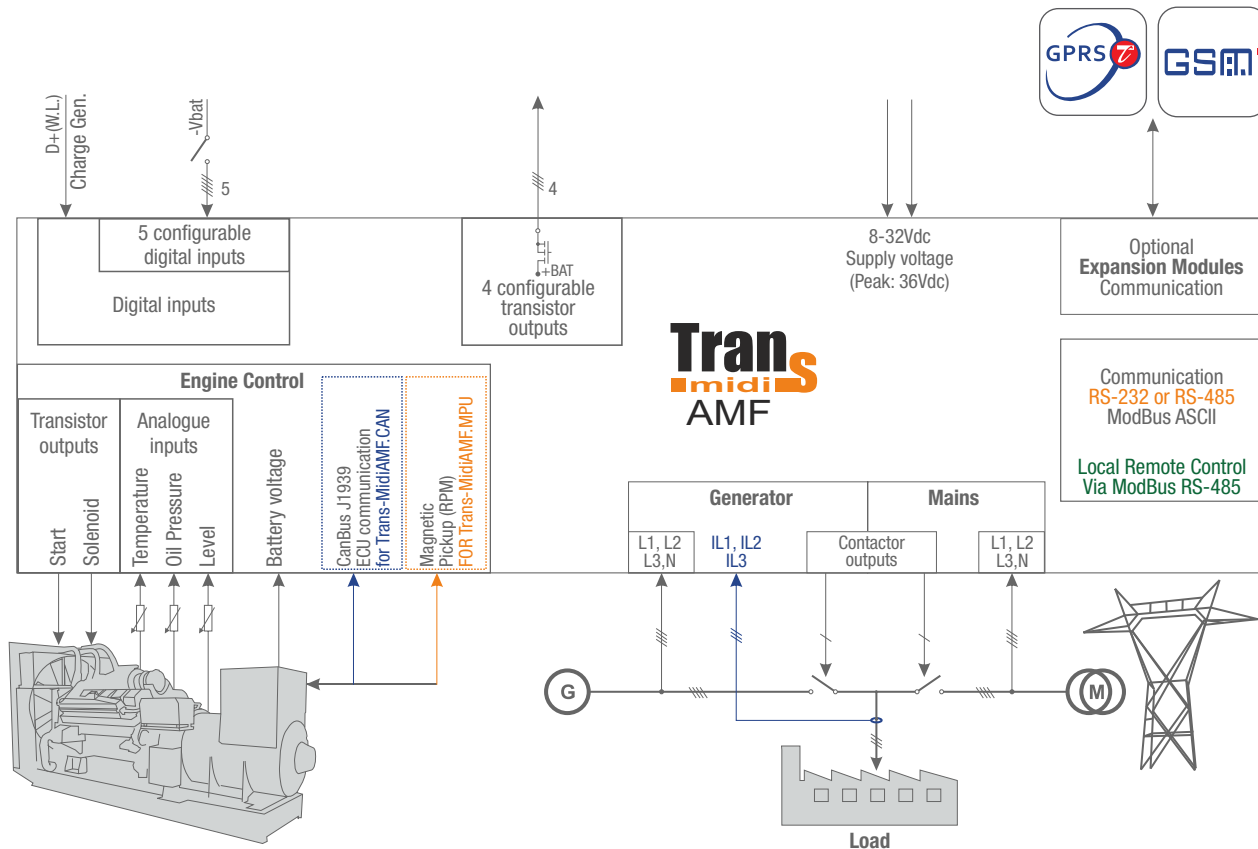
Fuel and Stop solenoid  
 ECU power and stop  
 Starter motor  
 Automatic generator start  
 Load transfer to mains  
 Preheat  
 External alarm horn  
 Engine cooling  
 Idle mode

### ▶ Fail Monitoring

Emergency stop  
 Failed to start  
 Low oil pressure  
 High temperature  
 Speed failure  
 Voltage failure  
 Charging fail  
 Shutdown  
 Warning

### Error

▶ Over / Under speed  
 Speed loss  
 Fuel level  
 Battery low  
 Battery high  
 Maintenance  
 Over current  
 Short circuit  
 Engine stop  
 CanBus  
 Charge alternator



Order Information	
<b>Trans-midiAMF.MPU.232</b>	Automatic GenSet controller with transfer switching, speed sensing from Magnetic Pickup,RS-232 communication
<b>Trans-midiAMF.CAN.232</b>	Automatic GenSet controller with transfer switching, CanBus J1939 ECU communication,RS-232 communication
<b>Trans-midiAMF.MPU.485</b>	Automatic GenSet controller with transfer switching, speed sensing from Magnetic Pickup,RS-485 communication
<b>Trans-midiAMF.CAN.485</b>	Automatic GenSet controller with transfer switching, CanBus J1939 ECU communication,RS-485 communication
<b>Trans-midiAMF.MPU.232.GPRS</b>	Automatic GenSet controller with transfer switching, speed sensing from Magnetic Pickup,RS-232 communication, GSM-GPRS feature
<b>Trans-midiAMF.CAN.232.GPRS</b>	Automatic GenSet controller with transfer switching, CanBus J1939 ECU communication,RS-232 communication, GSM-GPRS feature
<b>Trans-midiAMF.MPU.485.GPRS</b>	Automatic GenSet controller with transfer switching, speed sensing from Magnetic Pickup,RS-485 communication, GSM-GPRS feature
<b>Trans-midiAMF.CAN.485.GPRS</b>	Automatic GenSet controller with transfer switching, CanBus J1939 ECU communication,RS-485 communication, GSM-GPRS feature
<b>Trans-midiAMF.MPU.232.GPRS+GPS</b>	Automatic GenSet controller with transfer switching, speed sensing from Magnetic Pickup,RS-232 communication, GSM-GPRS+GPS feature
<b>Trans-midiAMF.CAN.232.GPRS+GPS</b>	Automatic GenSet controller with transfer switching, CanBus J1939 ECU communication,RS-232 communication, GSM-GPRS+GPS feature
<b>Trans-midiAMF.MPU.485.GPRS+GPS</b>	Automatic GenSet controller with transfer switching, speed sensing from Magnetic Pickup,RS-485 communication, GSM-GPRS+GPS feature
<b>Trans-midiAMF.CAN.485.GPRS+GPS</b>	Automatic GenSet controller with transfer switching, CanBus J1939 ECU communication,RS-485 communication, GSM-GPRS+GPS feature

**Automatic Gen-Set  
Controllers with  
Transfer Switching**



- CanBus J1939 ECU communication
- Parameter configuration via RS-232 serial communication
- Log last 50 events & alarm information with measured values
- Statistics records
- Remote Start/Stop, Speed and Idle mode control via J1939
- Power factor measurement for 1 phases
- 3 resistive sender inputs for Temperature, Oil Pressure and Fuel Level
- Selectable Resistive sender types; Pt-100, VDO, US, GM, Ford, Datcon, etc...
- Speed sensing from alternator voltage or magnetic pickup
- 1 phase Load current measurement
- 3 phase mains and 1 phase alternator voltage measurement
- Configurable 3 inputs and 4 outputs
- ECU power, ECU stop, Stop or Fuel solenoid selection
- Programmable weekly working permit calendar
- Exercise at programmed time intervals
- Automatic transfer switching control and engine control
- Compatible to Diesel or Gas generators
- Active, Reactive, Apparent power measurement
- Adjustable Start, Load and Stop timers
- SPN, FMI and OC values reading from engines via J1939

▶ **Pre-Alarm**

- Engine temperature
- Oil pressure
- Over / Under voltage
- Over / Under frequency
- Over / Under speed

▶ **Warning & Electrical trip**

- Over current
- Short circuit

▶ **Alarm**

- Mains breaker not opened
- Mains breaker not closed
- Generator breaker not opened
- Generator breaker not closed

▶ **Controls**

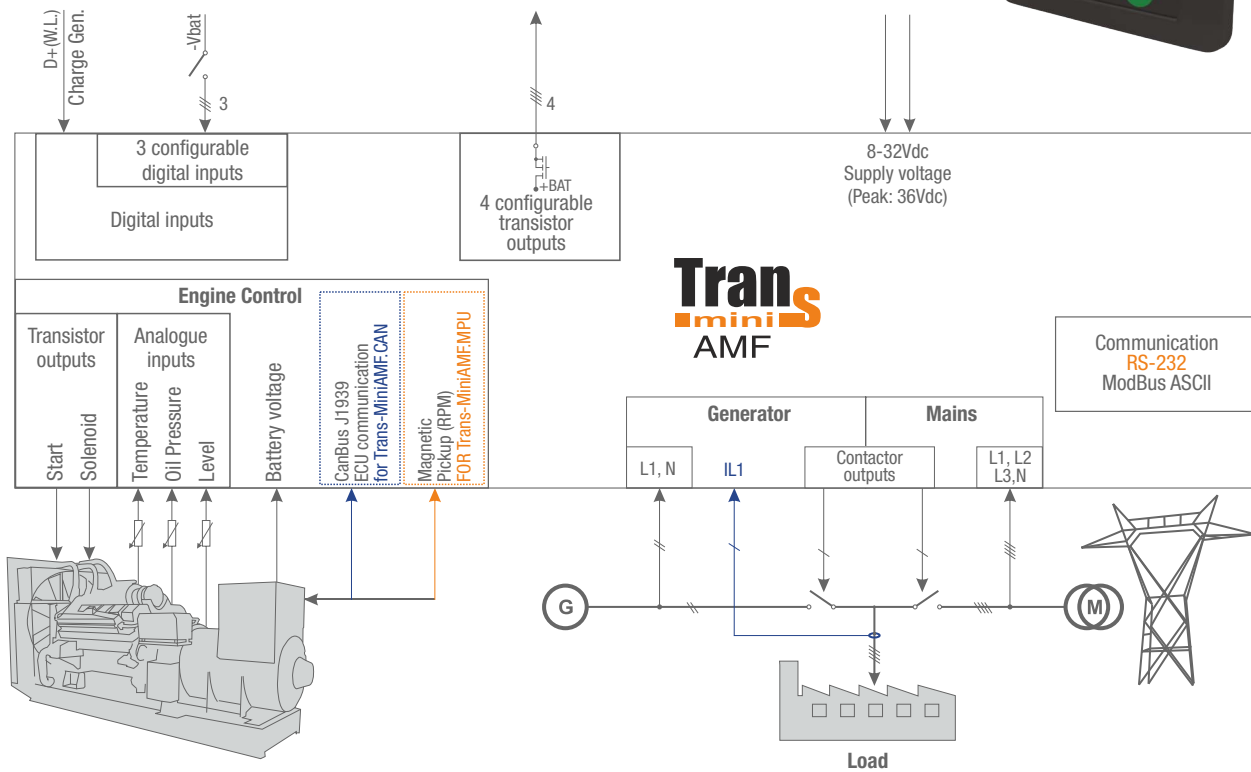
- Fuel and Stop solenoid
- ECU power and stop
- Starter motor
- Automatic generator start
- Load transfer to mains
- Preheat
- External alarm horn
- Engine cooling
- Idle mode

▶ **Fail Monitoring**

- Emergency stop
- Failed to start
- Low oil pressure
- High temperature
- Speed failure
- Voltage failure
- Charging fail
- Shutdown
- Warning

▶ **Error**

- Over / Under speed
- Speed loss
- Battery low
- Battery high
- Maintenance
- Over current
- Short circuit
- Engine stop
- CanBus
- Charge alternator



- Dimensions : 111mm x 81mm x 61mm
- Panel Cut-Out : 81mm x 70mm
- Protection : Ip65 at front panel
- Weight : Approximately 0,3Kg
- Operating/Storage Temperature : -20°C to +70°C / -30°C to +80°C
- Operating/Storage Humidity : 95% max. (non-condensing)
- DC battery supply voltage : 8 to 32Vdc (Peak: 36Vdc), max. operating current is 360mA
- CT Secondary : 5A
- Sender Measurement : 0 to 1300 ohm, accuracy: 1%FS, resolution: 1 ohm

Order Information	
<b>Trans-MiniAMF.RTC</b>	Automatic GenSet controller wiht transfer switching with real time clock
<b>Trans-MiniAMF.CAN.RTC</b>	Automatic GenSet controller wiht transfer switching, CanBus J1939 ECU comm.with real time clock
<b>Trans-MiniAMF.MPU.RTC</b>	Automatic GenSet controller wiht transfer switching, speed sensing from Magetic Pickup with real time clock



## Automatic Gen-Set Controllers



Canbus J1939 ECU communication  
 Parameter configuration via USB port of your notebook  
 Authorised access, secure communication  
 Selectable second language  
 Log last 50 events & alarm information with measured values  
 Statistics records  
 Generator phase sequence control  
 Remote Start/Stop, Speed and Idle mode control via J1939  
 Power factor measurement for 3 phases  
 4 resistive sender inputs for Level, Temperature, Oil Pressure and Spare  
 Selectable Resistive sender types; Pt-100, VDO, US, GM, Ford, Datcon, etc..  
 Speed sensing from alternator voltage or magnetic pickup  
 3 phase Load current and earth current measurement  
 Configurable 7 inputs and 4 outputs  
 ECU power, ECU stop, Stop or Fuel solenoid selection  
 Maintenance warning, Red (Shutdown) and Yellow (Warning) alarm lights  
 Navigation and Shortcut buttons for easy use  
 Load Test selection  
 Engine control  
 Compatible to Diesel or Gas generators  
 Auto, Manual and Test modes  
 Active, Reactive, Apparent power measurement  
 Adjustable Start, Load and Stop timers  
 SPN, FMI and OC values reading from engines via J1939

### ▶ Pre-Alarm

Engine temperature  
 Oil pressure  
 Over / Under voltage  
 Over / Under frequency  
 Over / Under speed

### ▶ Warning & Electrical trip

Earth fault  
 Over current  
 Short circuit

### ▶ Alarm

Generator breaker not opened  
 Generator breaker not closed

### ▶ Controls

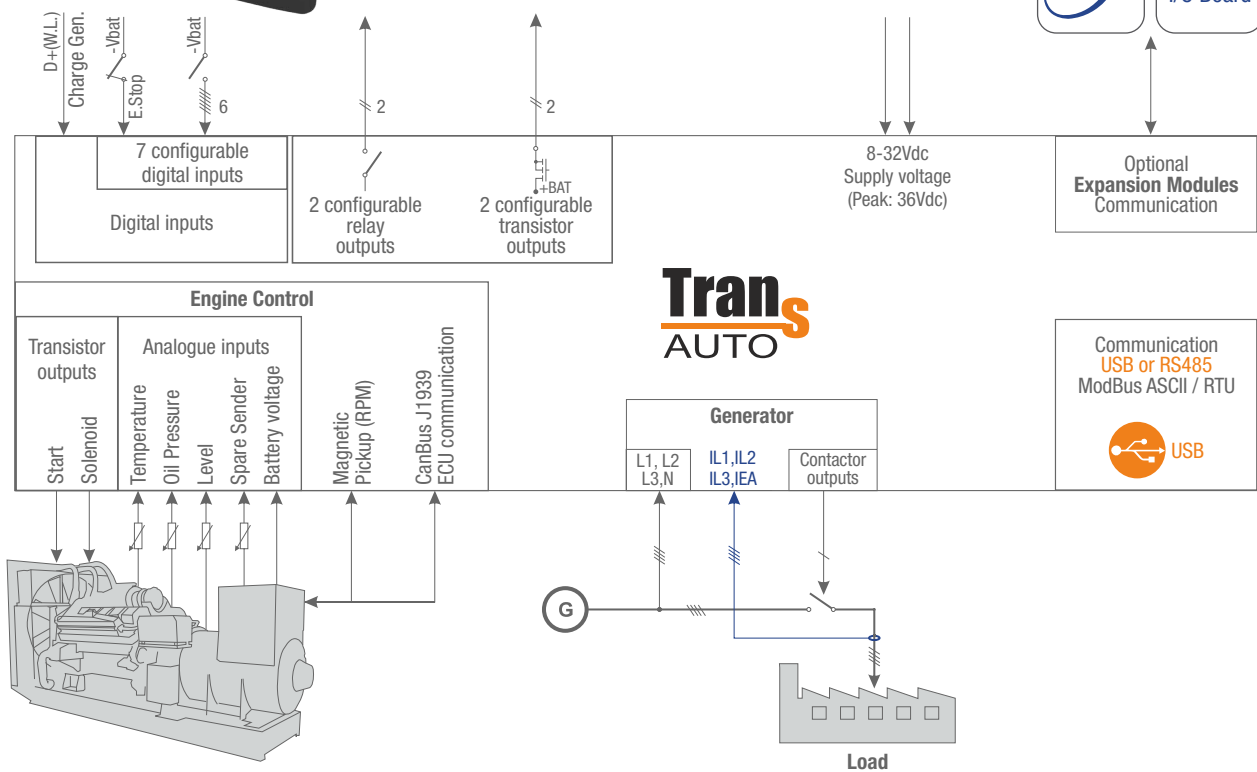
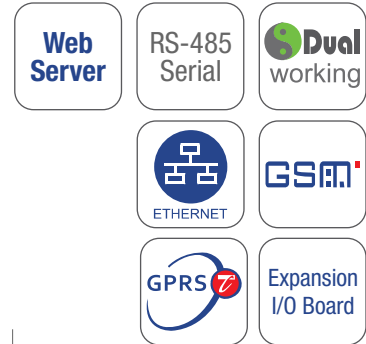
Fuel and Stop solenoid  
 ECU power and stop  
 Starter motor  
 Automatic generator start  
 Load transfer to mains  
 Preheat  
 External alarm horn  
 Engine cooling  
 Idle mode

### ▶ Fail Monitoring

Emergency stop  
 Failed to start  
 Low oil pressure  
 High temperature  
 Speed failure  
 Voltage failure  
 Charging fail  
 Shutdown  
 Warning

### ▶ Error

Over / Under speed  
 Speed loss  
 Battery low  
 Battery high  
 Maintenance  
 Over current  
 Short circuit  
 Engine stop  
 CanBus  
 Charge alternator



Dimensions	: 229mm x 152mm x 41mm
Panel Cut-Out	: 182mm x 135mm
Protection	: Ip65 at front panel
Weight	: Approximately 0,53Kg
Operating/Storage Temperature	: -20°C to +70°C / -30°C to +80°C
Operating/Storage Humidity	: 95% max. (non-condensing)
DC Battery Supply Voltage	: 8 to 32Vdc (Peak: 36Vdc), max. operating current is 360mA
CT Secondary	: 5A
Sender Measurement	: 0 to 1300 ohm, accuracy: 1%FS, resolution: 1 ohm

Order Information	
<b>TranS-AUTO</b>	Automatic Gen-Set controller, LCD display, J1939 ECU communication
<b>TranS-AUTO.RS485</b>	Automatic Gen-Set controller, LCD display, J1939 ECU communication, RS485 communication

## Automatic Gen-Set Controllers

Local  
Remote  
Control



Parameter configuration via RS-232 port of your notebook  
 Authorised access, secure communication  
 Selectable second language  
 Log last 50 events & alarm information with measured values  
 Statistics records  
 Generator phase sequence control  
 Power factor measurement for 3 phases  
 3 resistive sender inputs for Level, Temperature, Oil Pressure  
 Selectable Resistive sender types; Pt-100 VDO, US, GM, Ford, Datcon, etc...  
 Speed sensing from alternator voltage or magnetic pickup  
 CanBus J1939 ECU communication  
 SPN, FMI and OC values reading from engines via J1939  
 Remote Start/Stop Speed and Idle mode Control via J1939  
 Load Test selection  
 Compatible to Diesel, Gas or Gasoline generators  
 Auto, Manual and Test modes  
 Active, Reactive, Apparent power measurement  
 Adjustable Start and Stop timers  
 3 phase Load current measurement  
 Configurable 5 inputs and 4 outputs  
 Local Remote Control and Visualisation function

Dimensions	: 158mm x 111mm x 67mm
Panel Cut-Out	: 120mm x 94mm
Protection	: Ip65 at front panel
Weight	: Approximately 0,26Kg
Operating/Storage Temperature	: -20°C to + 70°C / -30°C to +80°C
Operating/Storage Humidity	: 95% max. (non-condensing)
DC Battery Supply Voltage	: 8 to 32Vdc (Peak: 36Vdc), max. operating current is 370mA
CT Secondary	: 5A
Sender Measurement	: 0 to 1300 ohm, accuracy: 1%FS, resolution: 1 ohm

### ► Pre-Alarm

Engine temperature  
 Oil pressure  
 Over / Under voltage  
 Over / Under frequency  
 Over / Under speed

### ► Warning & Electrical trip

Over current  
 Short circuit

### ► Alarm

Generator breaker not opened  
 Generator breaker not closed

### ► Controls

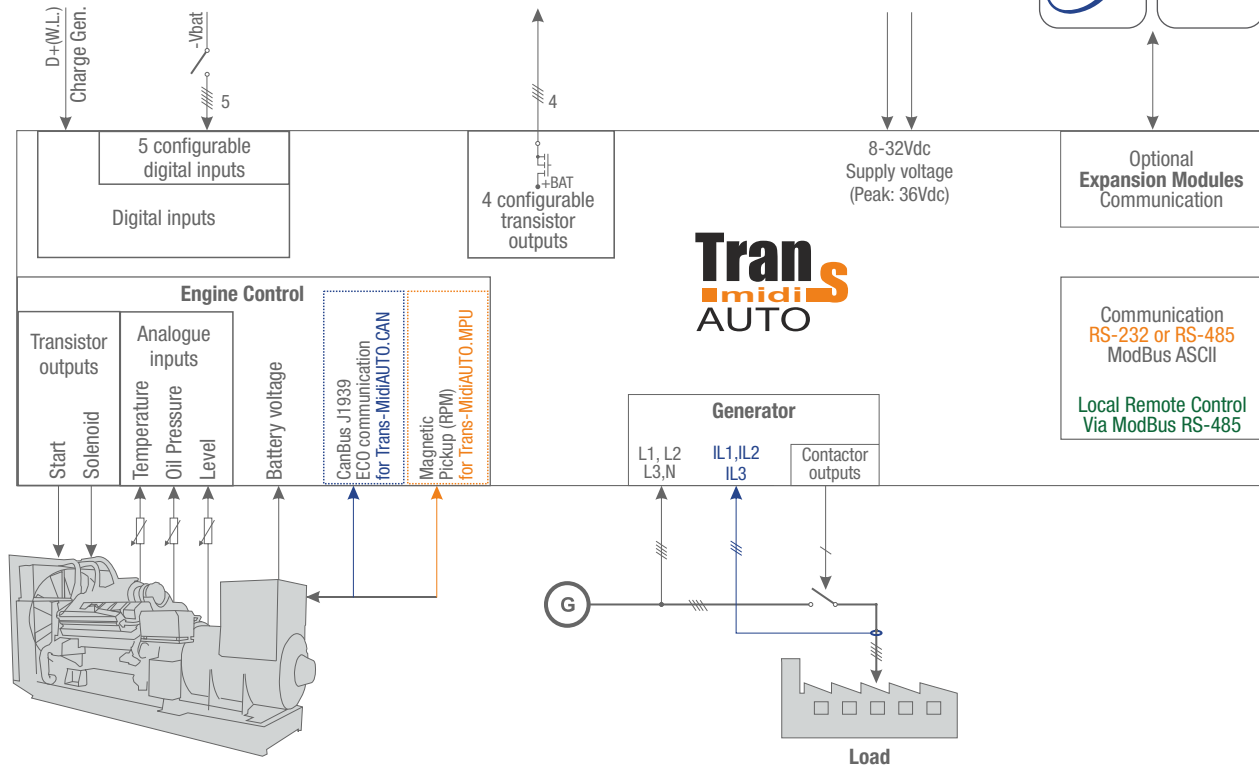
Fuel and Stop solenoid  
 ECU power and stop  
 Starter motor  
 Automatic generator start  
 Preheat  
 External alarm horn  
 Engine cooling  
 Idle mode

### ► Fail Monitoring

Emergency stop  
 Failed to start  
 Low oil pressure  
 High temperature  
 Speed failure  
 Voltage failure  
 Charging fail  
 Shutdown  
 Warning

### ► Error

Over / Under speed  
 Speed loss  
 Fuel level  
 Battery low  
 Battery high  
 Maintenance  
 Over current  
 Short circuit  
 Engine stop  
 CanBus  
 Charge alternator



Order Information	
<b>Trans-midiAUTO.MPU.232</b>	Auto Start GenSet controller, speed sensing from Magnetic Pickup, RS-232 communication
<b>Trans-midiAUTO.CAN.232</b>	Auto Start GenSet controller, CanBus J1939 ECU communication, RS-232 communication
<b>Trans-midiAUTO.MPU.485</b>	Auto Start GenSet controller, speed sensing from Magnetic Pickup, RS-485 communication
<b>Trans-midiAUTO.CAN.485</b>	Auto Start GenSet controller, CanBus J1939 ECU communication, RS-485 communication
<b>Trans-midiAUTO.MPU.232.GPRS</b>	Auto Start GenSet controller, speed sensing from Magnetic Pickup, RS-232 communication, GSM-GPRS feature
<b>Trans-midiAUTO.CAN.232.GPRS</b>	Auto Start GenSet controller, CanBus J1939 ECU communication, RS-232 communication, GSM-GPRS feature
<b>Trans-midiAUTO.MPU.485.GPRS</b>	Auto Start GenSet controller, speed sensing from Magnetic Pickup, RS-485 communication, GSM-GPRS feature
<b>Trans-midiAUTO.CAN.485.GPRS</b>	Auto Start GenSet controller, CanBus J1939 ECU communication, RS-485 communication, GSM-GPRS feature
<b>Trans-midiAUTO.MPU.232.GPRS+GPS</b>	Auto Start GenSet controller, speed sensing from Magnetic Pickup, RS-232 communication, GSM-GPRS+GPS feature
<b>Trans-midiAUTO.CAN.232.GPRS+GPS</b>	Auto Start GenSet controller, CanBus J1939 ECU communication, RS-232 communication, GSM-GPRS+GPS feature
<b>Trans-midiAUTO.MPU.485.GPRS+GPS</b>	Auto Start GenSet controller, speed sensing from Magnetic Pickup, RS-485 communication, GSM-GPRS+GPS feature
<b>Trans-midiAUTO.CAN.485.GPRS+GPS</b>	Auto Start GenSet controller, CanBus J1939 ECU communication, RS-485 communication, GSM-GPRS+GPS feature

## Automatic Gen-Set Controllers



Canbus J1939 ECU communication  
 Parameter configuration via RS-232 serial communication  
 Log last 50 events & alarm information with measured values  
 Statistics records  
 Remote Start/Stop, Speed and Idle mode control via J1939  
 3 resistive sender inputs for Temperature, Oil Pressure and Fuel Level  
 Selectable Resistive sender types; Pt-100, VDO, US, GM, Ford, Datcon, etc..  
 Speed sensing from alternator voltage, magnetic pickup or CanBus J1939  
 Configurable 3 inputs and 4 outputs  
 ECU power, ECU stop, Stop or Fuel solenoid selection  
 Engine control  
 Compatible to Diesel or Gas generators  
 Power measurement  
 Adjustable Start, Load and Stop timers  
 SPN, FMI and OC values reading from engines via J1939

### For Trans-Mini Auto

Power factor measurement for 1 phases  
 1 phase alternator voltage measurement  
 1 phase Load current measurement

### For Trans-Mini Auto++

Power factor measurement for 3 phases  
 3 phase alternator voltage measurement  
 3 phase Load current measurement

### ▶ Pre-Alarm

Engine temperature  
 Oil pressure  
 Over / Under voltage  
 Over / Under frequency  
 Over / Under speed

### ▶ Warning & Electrical trip

Over current  
 Short circuit

### ▶ Controls

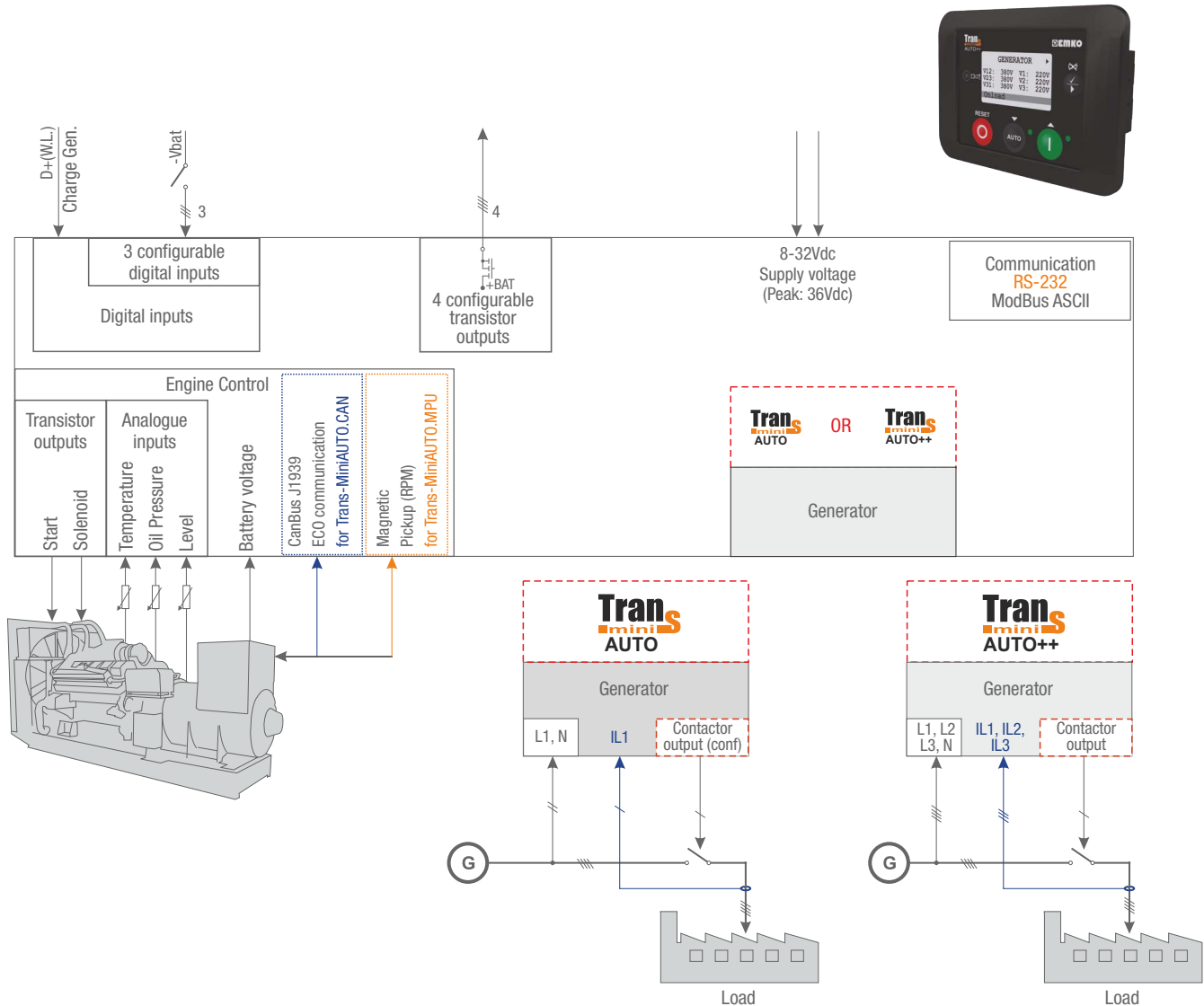
Fuel and Stop solenoid  
 ECU power and stop  
 Starter motor  
 Automatic generator start  
 Preheat  
 External alarm horn  
 Engine cooling  
 Idle mode

### ▶ Fail Monitoring

Emergency stop  
 Failed to start  
 Low oil pressure  
 High temperature  
 Speed failure  
 Voltage failure  
 Charging fail  
 Shutdown  
 Warning

### ▶ Error

Over / Under speed  
 Speed loss  
 Battery low  
 Battery high  
 Maintenance  
 Over current  
 Short circuit  
 Engine stop  
 CanBus  
 Charge alternator



Dimensions :111mm x 81mm x 61mm  
 Panel Cut-Out : 81mm x 70mm  
 Protection : Ip65 at front panel  
 Weight : Approximately 0,3Kg

Operating/Storage Temperature : -20°C to + 70°C / -30°C to +80°C  
 Operating/Storage Humidity : 95% max. (non-condensing)  
 DC Battery Supply Voltage : 8 to 32Vdc (Peak: 36Vdc), max. operating current is 360mA  
 CT Secondary : 5A  
 Sender Measurement : 0 to 1300 ohm, accuracy: 1%FS, resolution: 1 ohm

Order Information	
Tran-MiniAUTO.RTC	Auto Start GenSet controller, LCD display wiht real time clock
Tran-MiniAUTO.CAN.RTC	Auto Start GenSet controller,CanBus J1939 ECU communication with real time clock
Tran-MiniAUTO.MPU.RTC	Auto Start GenSet controller, speed sensing from Magetic Pickup with real time clock
Tran-MiniAUTO++.RTC	Auto Start GenSet controller, LCD display wiht real time clock
Tran-MiniAUTO++.CAN.RTC	Auto Start GenSet controller,CanBus J1939 ECU communication with real time clock
Tran-MiniAUTO++.MPU.RTC	Auto Start GenSet controller, speed sensing from Magetic Pickup with real time clock

## Automatic Transfer Switching Controllers



Configurable Load Generator and Engine running inputs  
Mains voltage failure detection  
Emergency backup and Test mode  
Log last 50 events & alarm information with measured values  
Statistics records

### For Trans-ATS

Parameter configuration via USB port of your notebook  
Authorised access, secure communication  
Selectable second language  
Mains and Generator phase sequence control  
Power factor measurement for 3 phases  
3 phase Load current and earth current measurement  
Configurable 8 inputs and 6 outputs  
Programmable weekly working permit calendar  
Navigation and Shortcut buttons for easy use  
Exercise at programmed time intervals  
Load Test selection  
Automatic transfer switching control  
Auto, Manual and Test modes  
Active, Reactive, Apparent power measurement

### For Trans-MiniATS

Parameter configuration via RS-232 serial communication  
Remote Start/Stop output  
Configurable 5 digital inputs and 6 outputs  
3 phase mains and 1 phase alternator voltage measurement

#### ▶ Pre-Alarm

Over / Under voltage  
Over / Under frequency  
Over / Under speed

#### ▶ Fail Monitoring

Emergency stop  
Speed failure  
Voltage failure  
Shutdown  
Warning

#### ▶ Warning & Electrical trip

Over current  
Short circuit

#### ▶ Error

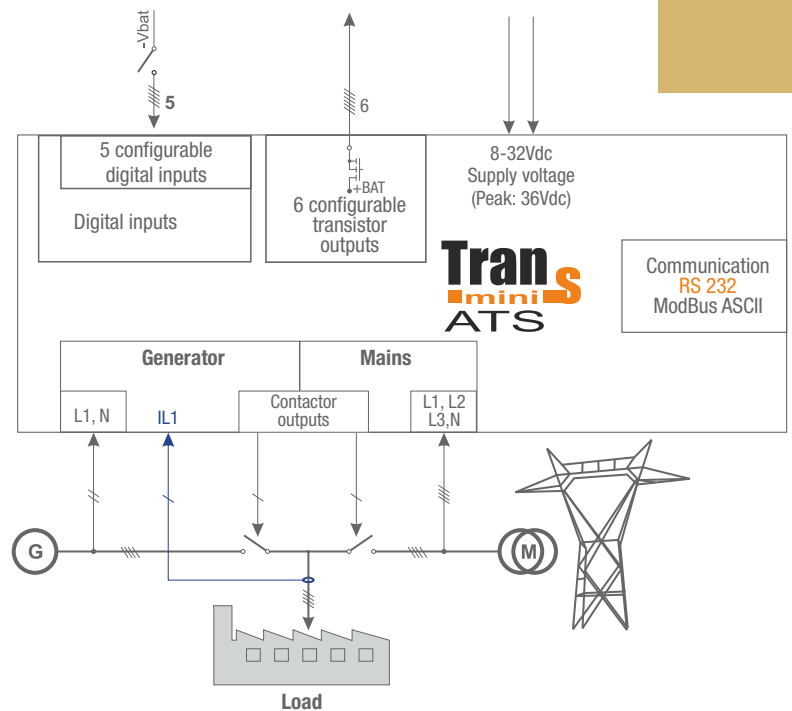
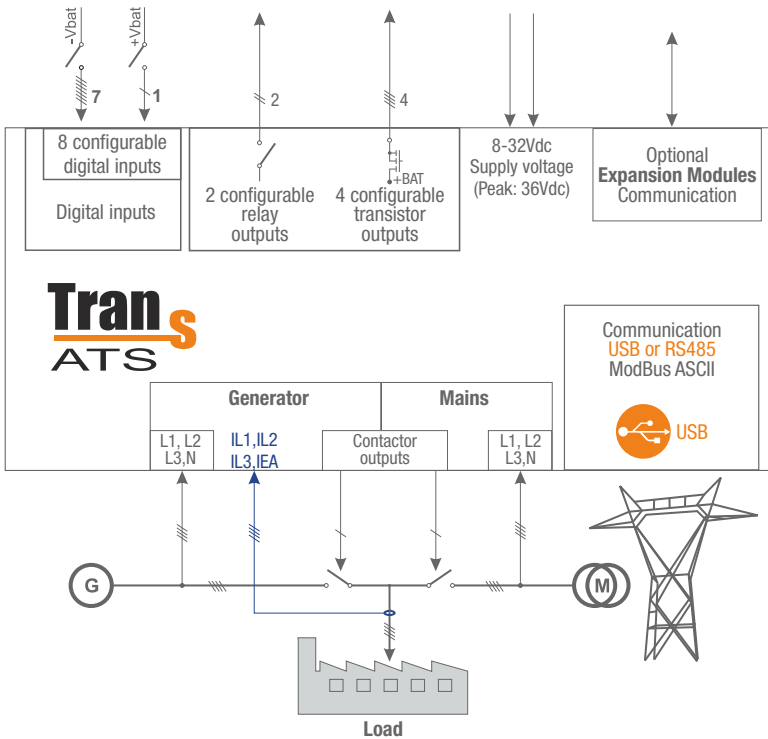
Over / Under speed  
Battery low  
Battery high  
Over current  
Short circuit  
Engine stop  
CanBus (Trans - ATS)

#### ▶ Alarm

Mains breaker not opened  
Mains breaker not closed  
Generator breaker not opened  
Generator breaker not closed

#### ▶ Controls

Automatic generator start  
Load transfer to mains  
External alarm horn



Operating/Storage Temperature : -20°C to + 70°C / -30°C to +80°C  
 Operating/Storage Humidity : 95% max. (non-condensing)  
 DC Battery Supply Voltage : 8 to 32Vdc (Peak: 36Vdc), max. operating current is 360mA

Dimensions : 229mm x 152mm x 41mm  
 Panel Cut-Out : 182mm x 135mm  
 Protection : Ip65 at front panel  
 Weight : Approximately 0,53Kg  
 CT Secondary : 5A

Dimensions : 111mm x 81mm x 61mm  
 Panel Cut-Out : 81mm x 70mm  
 Protection : Ip65 at front panel  
 Weight : Approximately 0,3Kg

Order Information	
<b>Trans-ATS</b>	Automatic transfer switching controller, LCD display
<b>Trans-ATS.RS485</b>	Automatic transfer switching controller, LCD display, RS485 communication
<b>Trans-MiniATS.RTC</b>	Automatic transfer switching controller, LCD display with real time clock

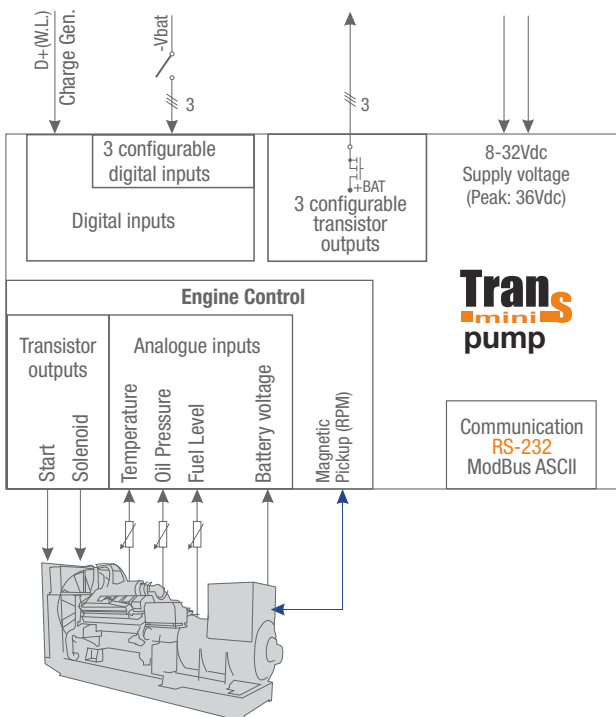


**Auto Start Moto-Pump  
Protection & Controllers**



- Parameter configuration via RS-232 serial communication
- Log last 50 events & alarm information with measured values
- Statistics records
- 3 resistive sender inputs for Temperature, Oil Pressure and Fuel Level
- Selectable Resistive sender types; Pt-100, VDO, US, GM, Ford, Datcon, etc..
- Speed sensing from magnetic pickup
- Configurable 3 inputs and 3 outputs
- Stop or Fuel solenoid selection
- Engine control
- Compatible to Diesel or Gas engines
- Remote Start

- ▶ **Pre-Alarm**
  - Engine temperature
  - Oil pressure
- ▶ **Controls**
  - Fuel and Stop solenoid
  - Starter motor
  - Remote Start / Stop
  - Preheat
  - External alarm horn
- ▶ **Fail Monitoring**
  - Emergency stop
  - Failed to start
  - Low oil pressure
  - High temperature
  - Speed failure
  - Charging fail
  - Shutdown
  - Warning
- ▶ **Error**
  - Over / Under speed
  - Speed loss
  - Battery low
  - Battery high
  - Maintenance
  - Engine stop
  - Charge alternator



Dimensions	: 111mm x 81mm x 61mm
Panel Cut-Out	: 81mm x 70mm
Protection	: Ip65 at front panel
Weight	: Approximately 0,3Kg
Operating/Storage Temperature	: -20°C to + 70°C / -30°C to +80°C
DC Battery Supply Voltage	: 8 to 32Vdc (Peak: 36Vdc), max. operating current is 360mA
Operating/Storage Humidity	: 95% max. (non-condensing)
Sender Measurement	: 0 to 1300 ohm, accuracy: 1%FS, resolution: 1 ohm

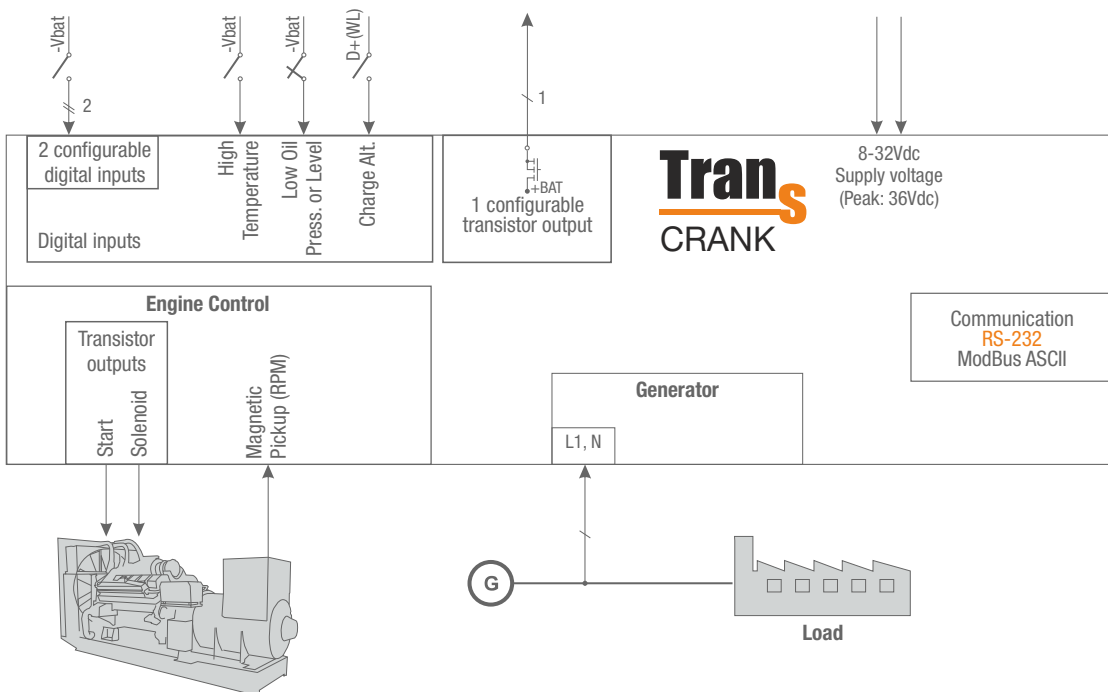
Order Information	
<b>Trans-MiniPump.RTC</b>	Diesel and Gas engine Auto Start controller for pump applications with real time clock



**Manual Key Start & Engine Protection with Key Switch**

- Over / Under Voltage protection
- Speed sensing from Magnetic pickup and alternator frequency
- Selectable Generator, Pump and Fire Pump applications
- Engine working hour counter
- Configurable 1 outputs and 2 inputs
- Single phase alternator voltage input
- Stop or Fuel solenoid selection
- Parameter configuration via RS-232 serial communication

- Dimensions : 72mm x 72mm x 60mm
- Panel Cut-Out : 68mm x 68mm
- Protection : IP30 at front panel
- Weight : Approximately 0,3Kg
- Operating/Storage Temperature : -25°C to + 70°C / -40°C to +85°C
- Operating/Storage Humidity : 95% max. (non-condensing)
- DC Battery Supply Voltage : 8 to 32Vdc (Peak: 36Vdc), max. operating current is 360mA



<b>Order Information</b>	
<b>Trans-CRANK</b>	Manual Start Unit with KEY Switch 72x72 mm. DIN size

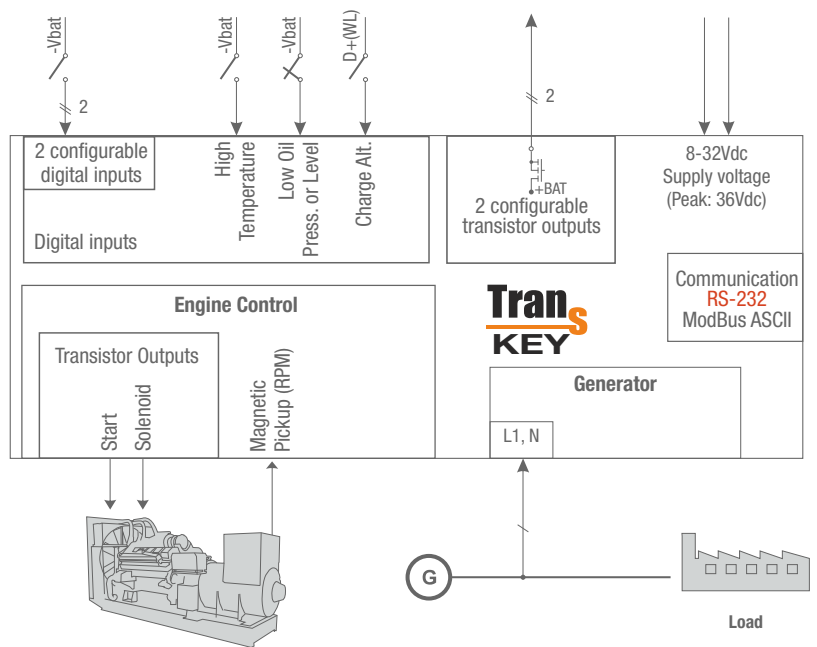


**Manual Key Start & Engine Protection with Key Switch**



- Over / Under Voltage protection
- Speed sensing from Magnetic pickup and alternator frequency
- Suitable for Diesel or Gasoline engine
- Selectable Generator, Pump and Fire Pump applications
- Crank disconnection from, Alt. voltage, Charge Alt, Speed, Frequency and Oil pressure
- Engine working hour counter for Trans-KEY.DISP model
- Configurable Choke output and Choke time for Gasoline engine
- Parameter configuration via RS-232 serial communication
- Configurable 2 outputs and 2 inputs
- Single phase alternator voltage input
- Configurable Fail Safe mode
- Stop or Fuel solenoid selection
- Remote Start/Stop input

- Dimensions : 72mm x 72mm x 52mm
- Panel Cut-Out : 68mm x 68mm
- Protection : Ip65 at front panel
- Weight : Approximately 0,21Kg
- Operating/Storage Temperature : -25°C to + 70°C / -40°C to +85°C
- Operating/Storage Humidity : 95% max. (non-condensing)
- DC Battery Supply Voltage : 8 to 32Vdc (Peak: 36Vdc)



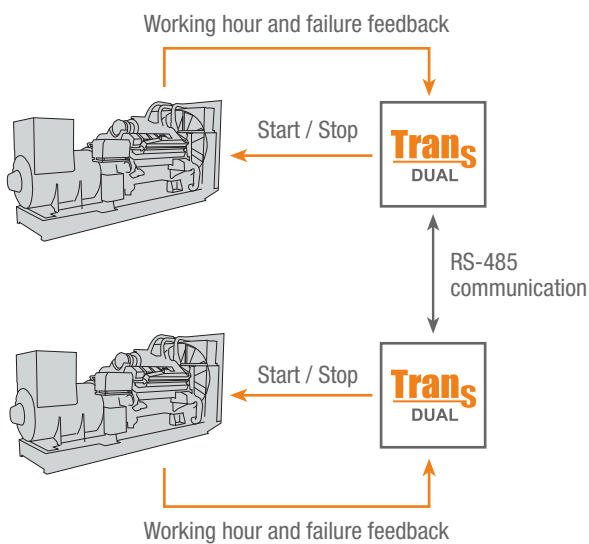
Order Information	
<b>Trans-KEY</b>	Manual and Remote Start Unit wiht KEY Switch, 72x72DIN Size, Transistor outputs without display
<b>Trans-KEY.DISP</b>	Manual and Remote Start Unit wiht KEY Switch, 72x72DIN Size, Transistor outputs with display

**Tran<sub>s</sub>**  
DUAL

Trans Series  
Failure and time interval  
dual working



- Easy plugging to Trans-AMF and Trans-Auto controllers
- Dual GenSet working by time interval
- Priority selection
- When the failure situation, automatically start to another GenSet
- Equal aging by working hours
- Definable time interval period
- Load transfer without power interruption



Products	Products	
	Tran <sub>s</sub> AMF	Tran <sub>s</sub> AUTO
Trans-Dual	+	+

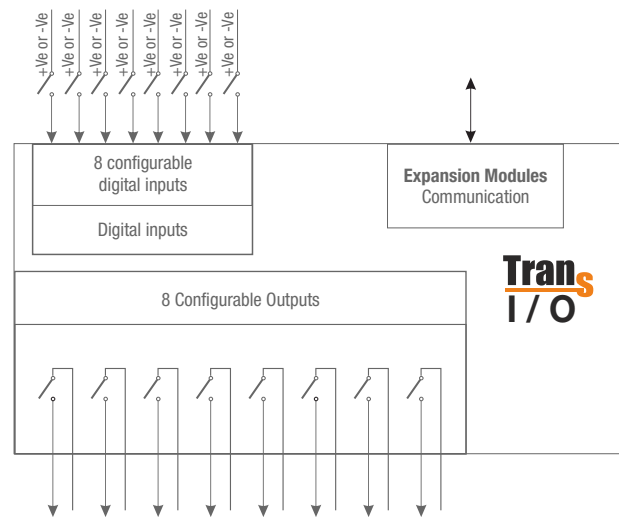
Order Information	
Trans-Dual	Failure and time interval dual working Module

**Tran<sub>s</sub>**  
I/O

Trans Series  
Expansion  
I/O Module



- Easy plugging to all Trans series controllers
- Configurable 8 inputs and 8 outputs
- Each Input and Output configurable by user or select from list
- Selectable hardware type of inputs by +Ve or -Ve
- Selectable NO or NC input polarity
- Selectable NO or NC output polarity
- Adjustable input active delay
- Can be used together with remote monitoring modules



Products	Products					
	Tran <sub>s</sub> AMF	Tran <sub>s</sub> AUTO	Tran <sub>s</sub> ATS	Tran <sub>s</sub> SYNCRO	Tran <sub>s</sub> MAINS	Tran <sub>s</sub> AMF SYNCRO
Trans - I/O	+	+	+	+	+	+

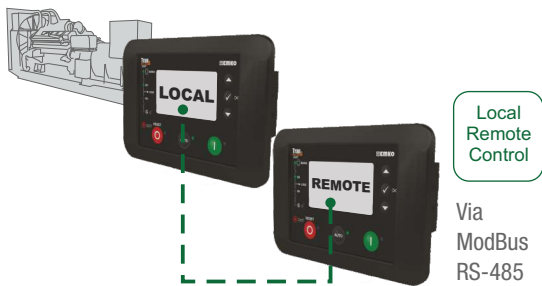
Order Information	
Trans-I/O	Expansion Input / Output Module for Trans Series Controller

**Local Remote Control System**



- GenSets Local remote control and display function
- “Remote / Local” selection
- ModBus RS-485 communication
- Same output configuration between Local device with Remote device
- parameter configuration via Remote device (Control function)
- Read measurement values with remote device (Display function)
- Start, Stop function via Remote device

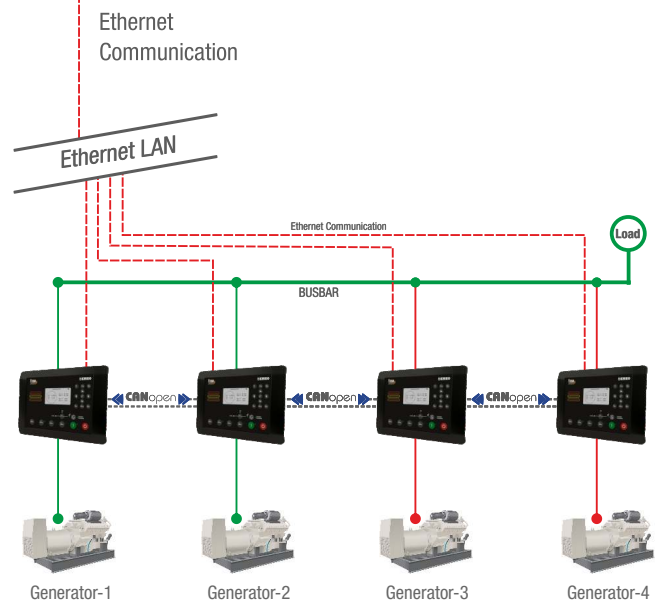
**Trans**  
midis  
AMF



**Local Remote Control & Visualisation**








**Remote Control & Visualisation**

**Remote HMI Control Panel for Gen-Set**



- Custom designed 10.1" wide Touch TFT Screen
- Gen-Set visualisation and control by EMKO HMI panel
- User-designed touch TFT screens
- Easy viewing and control with advanced visual screens
- Email notification when the alarm situation
- Multiple GenSets visualisation and control
- Measured values and statistic analysis
- Ethernet or RS-485 communication with HMI panel

	Products	
	Trans midis AMF	Trans midis AUTO
Local Remote Control	+	+

Max. Distance	Access Interface	Connection Type	Communication Modul	Control Panel	Management			Analysis		Alarm Notice		User		Cellular Location	Android & Iphone Applications	
					Remote Visualisation	Control	Programming	Data Logging	Graphic View	Sms	E@mail	Single Access	Multi Access			
2,5 mt.	PC Software	USB	N/A	Trans-AMF Trans-AUTTO Trans-SYNGRO	●	●	●	-	-	-	-	●	-	-		
1000 mt.		RS-485	Trans-485		●	●	●	-	-	-	-	●	-	-		
		SMS	Trans-Messenger		-	●	●	●	-	-	●	-	●	-	-	
	Embedded WEB browser	GPRS	Trans-GPRS	Trans-AMF Trans-AUTTO Trans-SYNGRO	●	●	●	-	-	0 1	-	●	●	-		
		Ethernet	Trans-Web_Ethernet		●	●	●	●	●	-	-	●	●	-	-	
		GPRS/Ethernet	Trans-Web_GPRS		●	●	●	●	●	●	●	●	●	●	-	-
	Emko Web Management	Ethernet	Trans-Web_Ethernet	Trans-AMF Trans-AUTTO Trans-SYNGRO	●	●	-	●	●	-	●	●	●	●	●	
		GPRS/Ethernet	Trans-Web_GPRS		●	●	-	●	●	●	●	●	●	●	●	●
		GPRS	Trans-GPRS		●	●	-	●	●	●	●	-	●	●	●	●

0 1 : GPRS modem connected to the PC and SIM card with SMS packed is required.

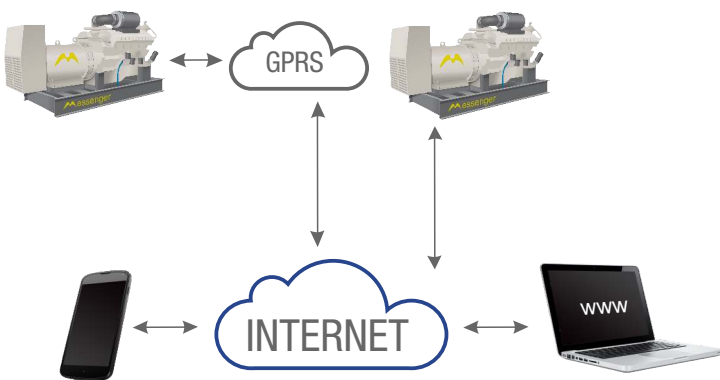
# Tran<sub>s</sub> WEB

## Trans Series Embedded Web Server Communication Module



Web Server

- Easy plugging to all Trans Series controllers
- Ethernet or GPRS communication
- Built-in http web pages
- Compatible to Trans-Cloud remote Gen-Set Management System
- Remote Genset control by Smart phones and PC
- E-mail sending when the alarm situation
- 4Gb SD memory
- User definable data logging period
- Alarm observation and archive
- DHCP supported



	Products					
	Tran <sub>s</sub> AMF	Tran <sub>s</sub> AUTO	Tran <sub>s</sub> ATS	Tran <sub>s</sub> SYNCRO	Tran <sub>s</sub> MAINS	Tran <sub>s</sub> AMF SYNCRO
Trans-WEB	+	+	+	+	+	+

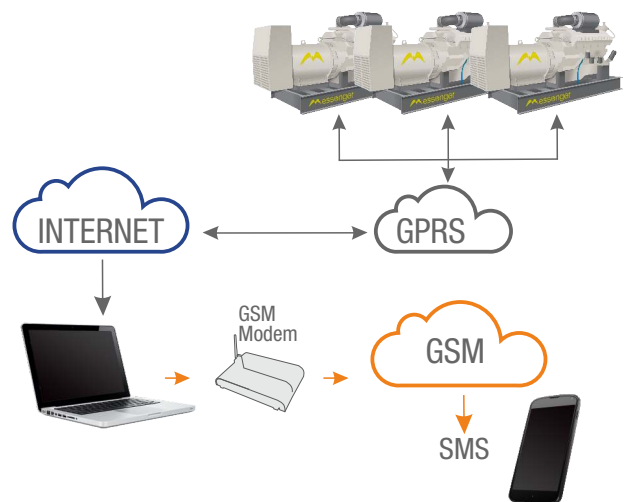
Order Information	
Trans-WEB_Ethernet	Remote Control & Visualisation Module communicate by Ethernet with Trans-Cloud and Trans-GenAgent SCADA software
Trans-WEB_GPRS	Remote Control & Visualisation Module communicate by GPRS & Ethernet with Trans-Cloud and Trans-GenAgent SCADA software

# Tran<sub>s</sub> GPRS

## Trans Series GPRS Communication Module



- Easy plugging to all Trans Series controllers
- GPRS communication
- Call-Back selection by GPRS
- GPS information by GPS model
- Maintenance management of multiple Gen-Sets from a central computer
- Alarm observation and archive
- DHCP supported
- ModBus over TCP/IP communication protocol
- Suitable for telemetry projects



	Products					
	Tran <sub>s</sub> AMF	Tran <sub>s</sub> AUTO	Tran <sub>s</sub> ATS	Tran <sub>s</sub> SYNCRO	Tran <sub>s</sub> MAINS	Tran <sub>s</sub> AMF SYNCRO
Trans-GPRS	+	+	+	+	+	+

Order Information	
Trans-GPRS	Remote Control & Visualisation Module, communication by GPRS



# Tran<sub>s</sub> 485

## Trans Series RS-485 Serial Communication Module



RS-485  
Serial

- Easy plugging to all Trans Series controllers
- RS-485 serial ModBus communication
- Call-Back selection by Serial network
- Maintenance management of multiple Gen-Sets from a central computer
- Alarm observation and archive
- Easy adjustable ID address
- Max. 247 device can be add on serial network
- 500V galvanic insulation



	Products		
	Tran <sub>s</sub> AMF	Tran <sub>s</sub> AUTO	Tran <sub>s</sub> ATS
Trans-485	+	+	+

Order Information	
Trans-485	Remote Control & Visualisation Module, communication by RS-485 with Trans-GenAgent SCADA software

# GENCHARGER



- 3A or 5A output for 12Vdc and 24 Vdc battery
- 90...290Vac wide range supply voltage
- Float charging
- 67 Khz switching
- Constant output voltage
- Current limiting
- Fail (Relay) output
- High Current and short circuit protection
- Reserve connection protection
- High voltage protection (only on S+ series)
- High temperature protection
- Wide range operation voltage
- Suitable for Lead Acid battery
- %95 efficiency
- Boost input for quick charging
- Easy replacable fuse
- Flame resistance plastic box

Order Information	
<b>GENCHARGER-312S</b>	SMPS Battery Charger, 3A Output for 12Vdc battery, 90-290 Vac supply voltage
<b>GENCHARGER-512S</b>	SMPS Battery Charger, 5A Output for 12Vdc battery, 90-290 Vac supply voltage
<b>GENCHARGER-324S</b>	SMPS Battery Charger, 3A Output for 24Vdc battery, 90-290 Vac supply voltage
<b>GENCHARGER-524S</b>	SMPS Battery Charger, 5A Output for 24Vdc battery, 90-290 Vac supply voltage



**Trans**  
Gen-Agent

Remote  
Visualisation & Control  
SCADA Software



Automatic device recognition for Trans series controllers  
 Remote control & visualisation for multiple Gen-Sets  
 Communicate by Dial Up, Ethernet, Internet, GPRS, GSM, RF and Serial  
 USB communication for single Gen-Set remote control & visualisation  
 "Auto Call" for 3 times / daily  
 Alarm and event Archive  
 Configurable and recordable new language by user  
 Authorised access, secure communication  
 Windows XP, Vista, 7 compatible

► **Observation**

- Measurement values
- J 1939 ECU values
- Power and Energy values
- Event Logs
- Analogue View
- Archive database
- Outputs status
- Alarm status
- Online device status
- Red or Yellow Alarms
- Maintenance Alarm

► **Control**

- Modes changing
- Engine Start / Stop
- Breakers control
- Operator parameters changing
- Technician parameters changing
- Device measurement values adjusting



Order Information	
Trans-GenAgent	Remote Control & Visualisation SCADA software

**Web**  
Management

Remote GenSet  
Management  
System



**Web**  
Management

Easy remote access to GenSet all over the world  
 Unlimited users for remote access to GenSet  
 Server - client based solution  
 Multiple GenSets visualisation  
 Measured values and statistic analysis  
 Email and SMS notification when the alarm situation  
 Html interface by internet  
 Full protection for accessing  
 No need to download any software  
 GenSet visualisation and control by PC/netbook, smartphone, etc.  
 Multiple GenSets situations shows on the map

