

How do You configure T200 modem for GSM communication ?

T200 is a powerful FRTU which utilizes wireless communication capabilities to send data or SMS to remote locations. It shall communicate on GSM network and is capable of sending SMS to operator mobile or sending data to a remote SCADA. In this case, T200 uses inbuilt/internal modem to connect to the GSM network. In order to enable the feature of sending SMS, T200 has to be parameterised which is described as below.

Parameterization of GSM modem in T200

1. Connect T200 to the laptop using a USB cable. Open the Easergy configuration tool and connect to T200.
2. Select Operation mode from the Settings menu Fig (1).
3. Select the Port 1 or Port 2, depending on the firmware options available in your T200. However mode of communication shall be in “Balanced” and link shall be selected as “normal”.
4. Select the medium (Internal Modem) and save the configurations.
5. Save the parameters.
6. Now select Port 1/Port 2 transmissions from settings menu Fig (1). Note this is to be selected based on the firmware option, as is related to point 3 mentioned above.
7. Enter the SMS Service centre number, User Telephone number and other parameters as in Fig (3).
8. Save the configurations.

Easergy T200 - Windows Internet Explorer
 http://10.235.186.183/cgi/main.cgi
 appbarioFR Customized Web Search

File Edit View Favorites Tools Help

★ Favorites ★ Web Slice Gallery

Easergy T200

Home Administrator Diagnostic Maintenance Settings Remote

SCHNEIDER Electric SHG-TwoFeeder-V05A-SH5

Monitoring Control Administrator Diagnostic Maintenance Settings Remote

Communication general parameters

Communication parameters on physical ports

Protocol : IEC 60870-5-101
 Port 1 Mode Unbalanced Link Off Media Direct RS232 (internal interface)
 Protocol : IEC 60870-5-101
 Port 2 Mode **Balanced** Link Normal Media GSM (external modem, Hayes commands)

Communication parameters on TCP/IP ports

Protocol : IEC 60870-5-104 Link Normal
 Protocol : MODBUS over TCP/IP
 Mode No report by exception Link Off

Quality of parameters transmission

Port	RxQuality	TxQuality	NbSrv
Port 1	40 %	40 %	3
Port 2	40 %	40 %	3

Allow return to main channel Yes Delay before return 60 s

Diagnostic

Port	Reception	Emission	Number of frames treated	Number of valid frames	Quality
Port 1	Reception		0	0	-
	Emission		0	0	-
Port 2	Reception		0	0	-
	Emission		0	0	-

Save

Done Local intranet | Protected Mode: Off 100%

Fig (1)

Port 2 : IEC 60870-5-101			
GSM (internal modem)			
Transmission speed:	9600 ▼ bauds		Number of stop bits
			Delay before response
	RTS (or CTS) to message delay	0 ms	Message to RTS delay
Caller communication delay	30 seconds	Called communication delay	60 seconds
Host tel number (main)	0478554678	Host tel number (standby)	0478555678
PIII Number	0000		
SMS service center tel number:	0689004000	SMS user tel number	0674948960
IMEI code	011202000025048		

Fig (2)

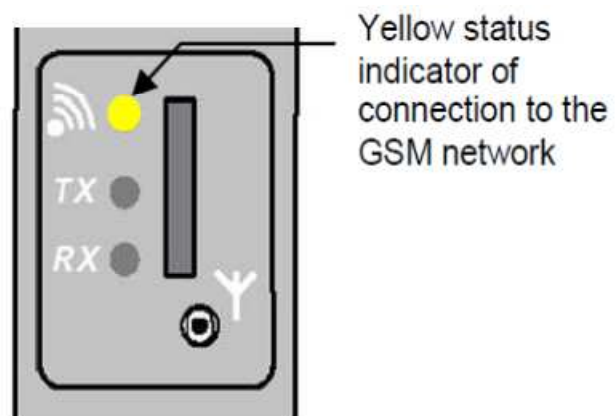
Precautions

1. SMS service centre number is required for sending SMS to any GSM device. Hence the same need to be updated in the SIM card. Always confirm the SMS service centre number from the network operator.
2. Insert the SIM card in a Cell phone and set this number in the SIM card via message setting menu of the cell phone.
3. Add appropriate country code (+33 for France, +91 for India etc) for to both user number and service Centrex number to avoid confusion.
4. Keep communication in balanced mode.

Indications of GSM communication

Once GSM connection is established, T200 gives appropriate indications by flashing of indicator lamp on the front of the GSM modem and has the following meaning

- The indicator lamp is lit steadily : the modem is not connected to the GSM network
- The indicator lamp flashed slowly(every 2.5 Seconds) : The modem is connected to the network but there is no remote link
- The indicator lamp flashed rapidly(every second) : The modem is connected to the network and a remote link is established



Indications on the front panel of the GSM modem for the COM card

Fig (3)

Port traces for GSM Modem Initialisation

Below is a sample for Port traces when T200 modem tries to connect to GSM network.

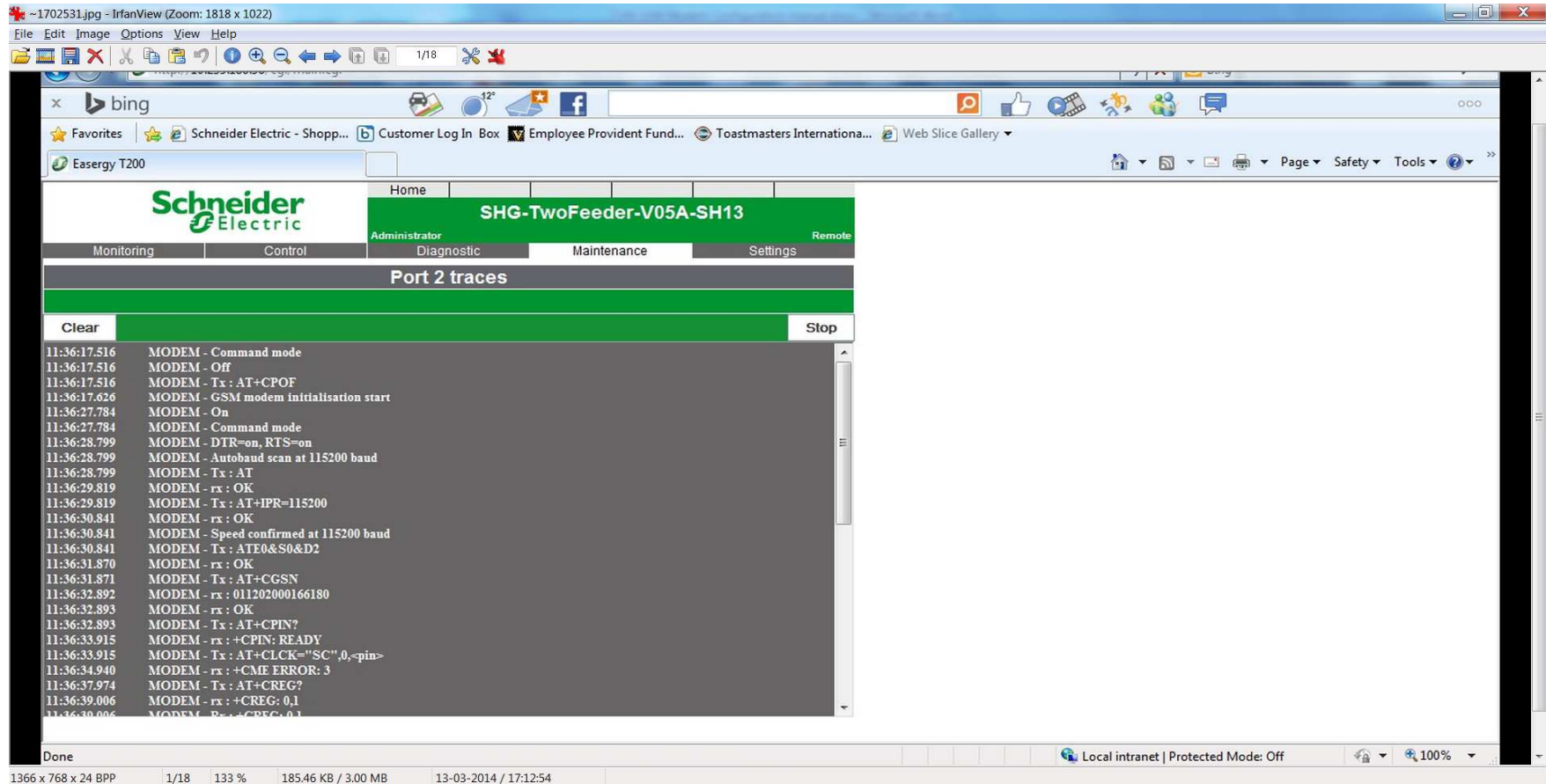


Fig (4)

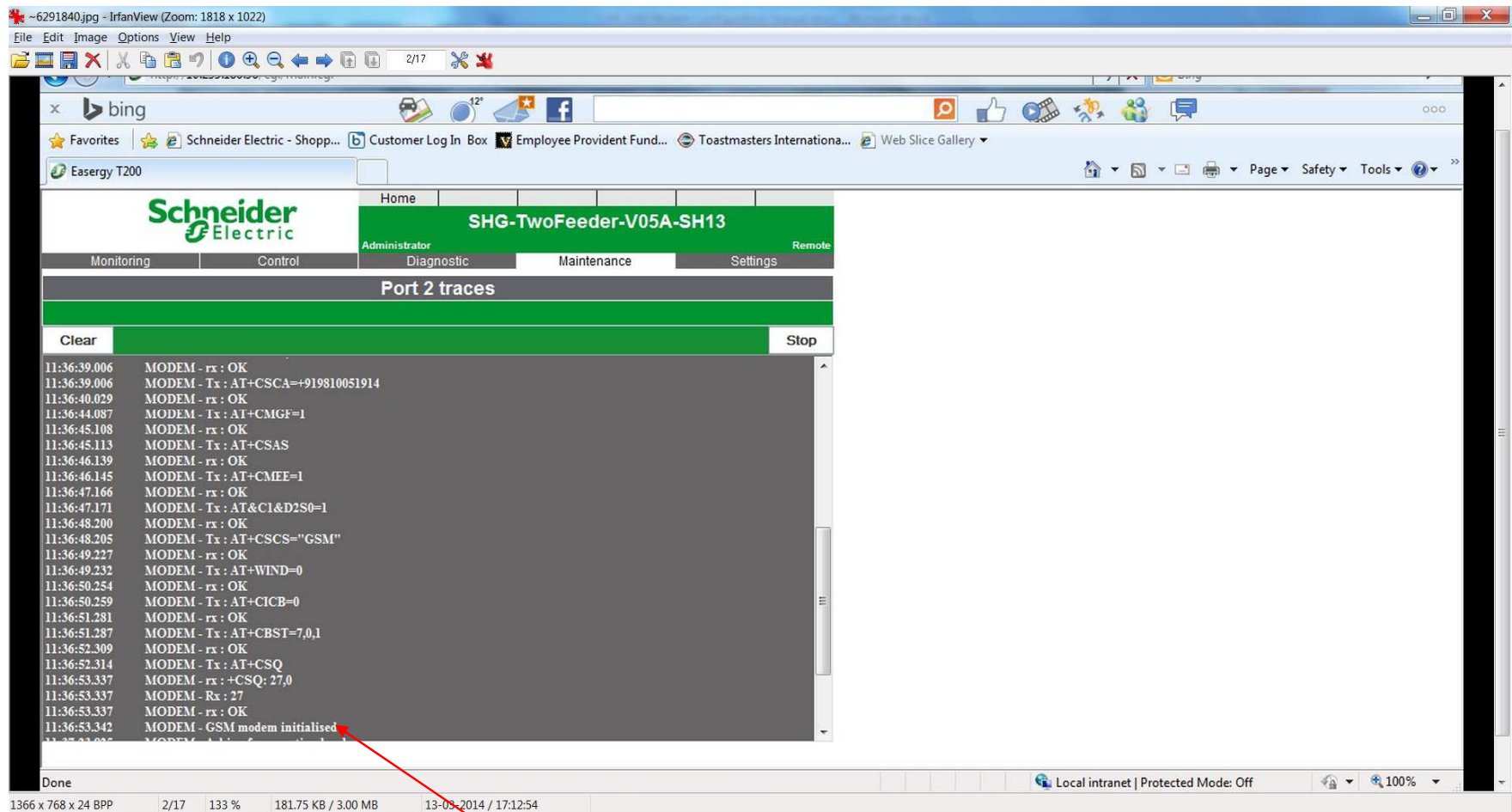


Fig (5)

Configure variables for Alarm points

This portion describes configuration of variables which has to be send as alarms to operator mobile phone. Corresponding screenshots are also attached below, for your reference.

1. Select the Variable configuration page from setting menu.
2. Declare the type of variable that needs to be send as an alarm, like any T200 status or user defined variable.
3. The example here is for a T200 Internal fault type – Device battery fault.
4. Further, once you click this variable, Select 'SMS 'option in Alarm configuration. Note to check buttons for “Active” on this page.
5. After saving these parameters, Click TSS Test to check for Sending SMS. You should receive an SMS in the configured cell phone.

Easergy T200 - Windows Internet Explorer

http://10.235.186.183/cgi/main.cgi

File Edit View Favorites Tools Help

appbarioFR Customized Web Search

Easergy T200

Home

Administrator

SHG-TwoFeeder-V05A-SH5

Monitoring Control Diagnostic Maintenance Settings Remote

Variable configuration

Modbus Server Elements

New element: Add

Variable name			
Switch state 1			
SW1_command			
SW1_Status_Int			
SW1_locked			
SW1_voltage			
SW1_earth_fault			
SW1_phase_fault			
SW1_CmdFailed			
SW1_CurrentMeas			
Switch state 2			
SW2_command			
SW2_Status_Int			
SW2_locked			
SW2_voltage			
SW2_earth_fault			
SW2_phase_fault			
SW2_CmdFailed			
SW2_CurrentMeas			
Switch state 3			
SW3_command			
SW3_Status_Int			
SW3_locked			
SW3_voltage			

Communication

Operation mode

Protocol

TCP/IP Protocol - IEC104 (1)

TCP/IP Protocol - ModBus (2)

Port 1: transmission

Port 2: transmission

Modbus master

Communication

Slaves Configuration

Control Module n°1

Control & Automation

Measurement/Fault Indicator

Variable management

Variable configuration

Classes configuration

Embedded PLC

Formulas

http://10.235.186.183/cgi/labelMonitoring.cgi

Local intranet | Protected Mode: Off

100%

Fig (6)

Easergy T200 - Windows Internet Explorer

http://10.235.186.183/cgi/main.cgi

File Edit View Favorites Tools Help

appbarioFR Customized Web Search

Easergy T200

Home

SHG-TwoFeeder-V05A-SH5

Monitoring Control Administrator Diagnostic Maintenance Settings Remote

Variable configuration

Modbus Server Elements

New element: Single-point information (DI) Add

Variable name	Type	Address	Peer to Peer address
T200 Internal fault			
Dev_MotoPSFault	TSS19	87	-
Dev_AccPSFault	TSS20	202	-
Dev_ChargFault	TSS21	85	-
Dev_Batt_Fault	TSS22	86	-
Dev_EquipFault	TSS29	203	-
Dev_FPI_Fault	TSS47	204	-

Done

Local intranet | Protected Mode: Off

100%

Fig (7)

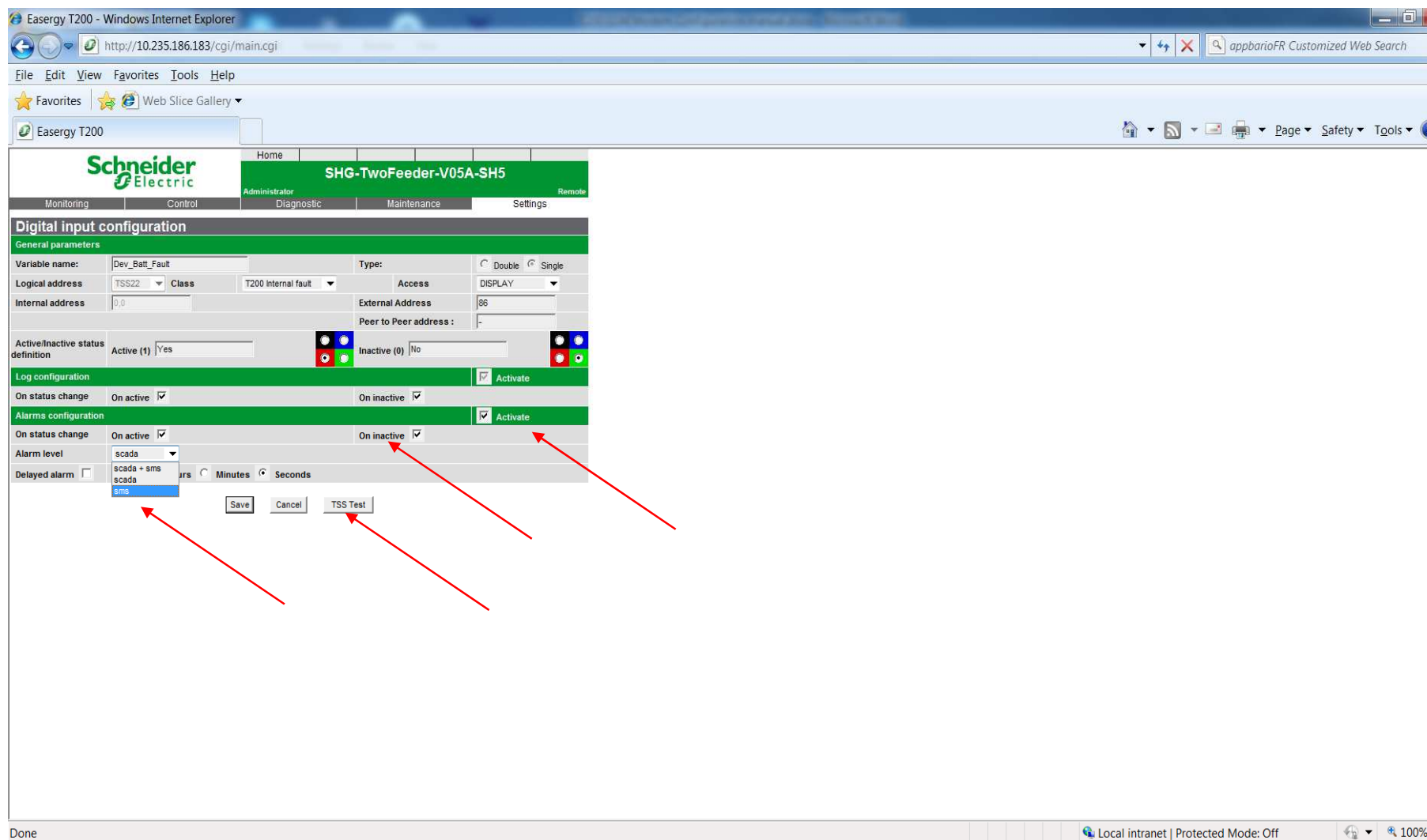


Fig (8)

Port traces for GSM Modem – Successful sending Of SMS

The screenshot shows a web browser window displaying the Schneider Electric SHG-TwoFeeder-V05A-SH13 interface. The interface includes a navigation bar with links for Home, Monitoring, Control, Diagnostic, Maintenance, and Settings. The 'Port 2 traces' section is active, showing a log of modem activity. A red arrow points to the 'MODEM - Sending SMS' entry in the log.

Time	Event
11:40:27.301	MODEM - Sending SMS
11:40:28.321	MODEM - rx : OK
11:40:28.321	MODEM - Modem ready
11:40:28.321	MODEM - Dialling :
11:40:28.322	MODEM - +919990370224
11:40:34.835	MODEM - rx : >
11:40:34.836	MODEM - rx : +CMGS: 205
11:40:34.836	MODEM - Sending OK
11:40:34.836	MODEM - rx : OK
11:41:05.329	MODEM - Asking for reception level
11:41:05.352	MODEM - rx : +CSQ: 26,0
11:41:05.352	MODEM - Rx : 26
11:41:05.352	MODEM - rx : OK

Fig (9)