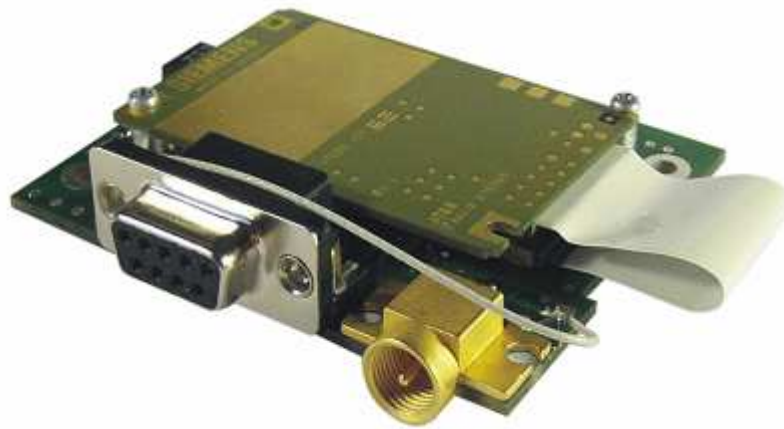


XC35/39Terminal

Hardware Interface Description

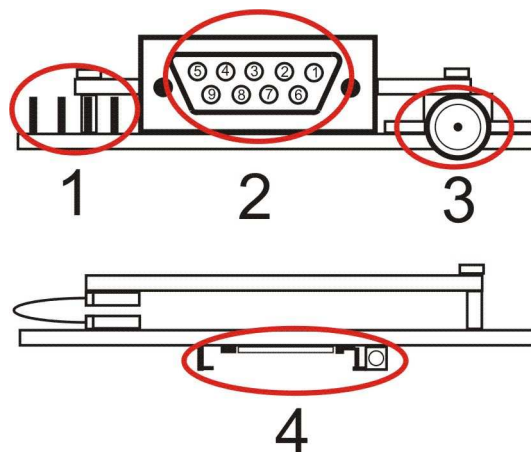


Contents

1. Interface description
2. Connection
3. Mounting advice
4. Power supply
5. RS232 interface
6. SIM interface
7. Status LED
8. Attaching the terminal
9. Terminal Hardware Interface Description
10. Characteristics On/Off control lines
11. Characteristics (requirements) RS232 interface

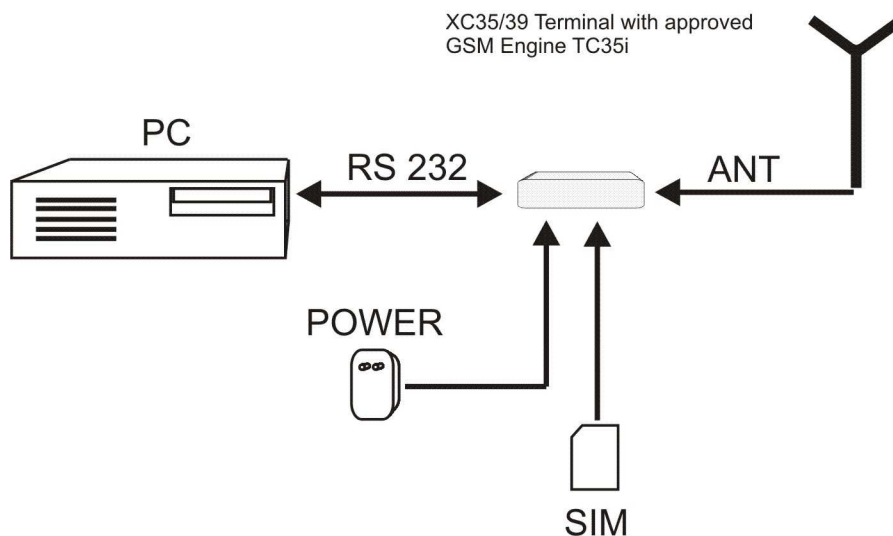
1. Interface description

1.1. Overview XC35/39 Terminal provides the following connectors for power supply, interfacing and antenna:



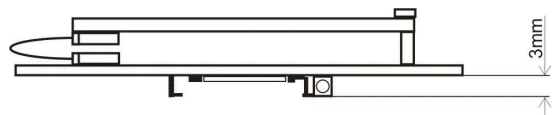
1. 4-pole (male) for power supply, ignition, power down signal
2. 9-pole (female) SUB-D plug for RS-232 serial interface
3. FME Jack (male) for antenna (Radio Interface)
4. SIM card holder

2. Connection

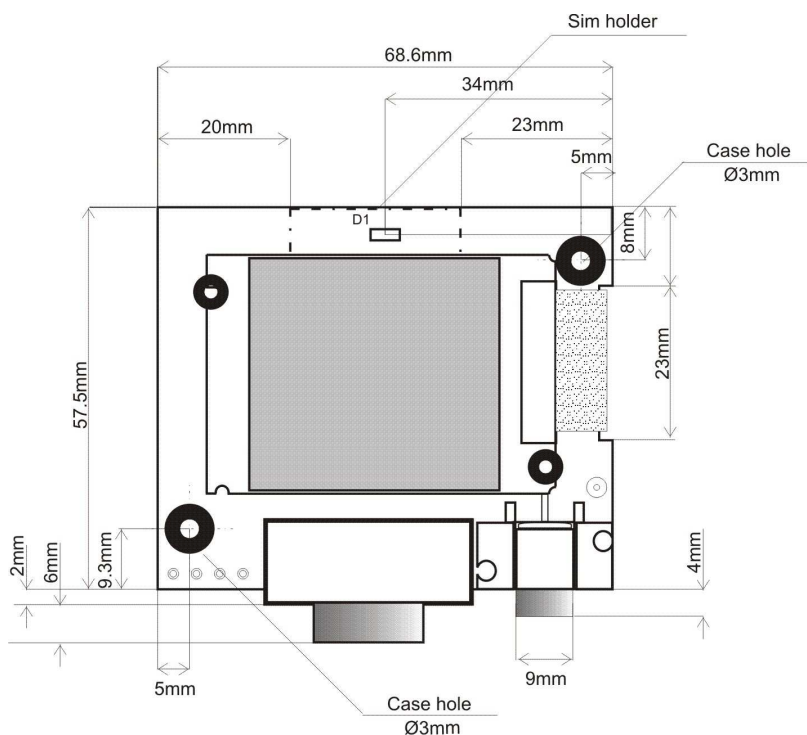


3. Mounting advice

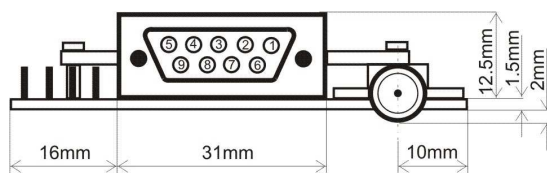
Rear view



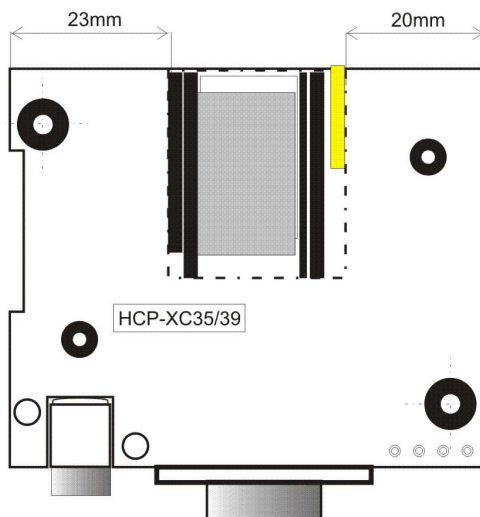
Top view



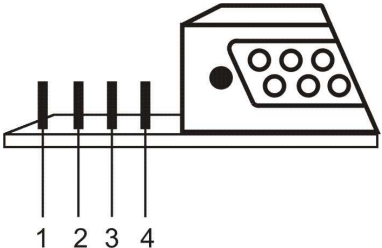
Front view



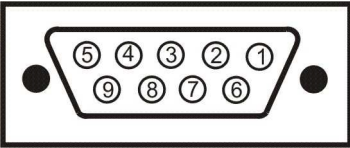
Bottom view



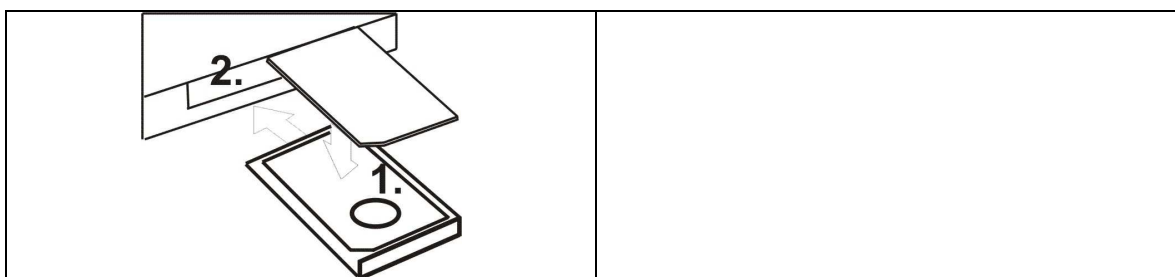
4. Power supply

	<ol style="list-style-type: none"> 1. 0V (GND) 2. Ignition 3. Shutdown 4. 8-30V (average 400mA, max 1A)
---	---

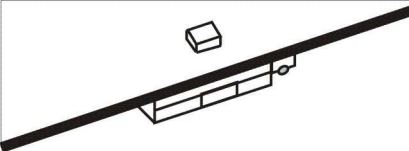
5. RS232 interface

	<table border="0"> <tr> <td>1. DCD</td> <td>Data Carrier Detect</td> </tr> <tr> <td>2. RD</td> <td>Receive Data (a.k.a RxD, Rx)</td> </tr> <tr> <td>3. TD</td> <td>Transmit Data (a.k.a TxD, Tx)</td> </tr> <tr> <td>4. DTR</td> <td>Data Terminal Ready</td> </tr> <tr> <td>5. SGND</td> <td>Ground</td> </tr> <tr> <td>6. DSR</td> <td>Data Set Ready</td> </tr> <tr> <td>7. RTS</td> <td>Request To Send</td> </tr> <tr> <td>8. CTS</td> <td>Clear To Send</td> </tr> <tr> <td>9. RI</td> <td>Ring Indicator</td> </tr> </table>	1. DCD	Data Carrier Detect	2. RD	Receive Data (a.k.a RxD, Rx)	3. TD	Transmit Data (a.k.a TxD, Tx)	4. DTR	Data Terminal Ready	5. SGND	Ground	6. DSR	Data Set Ready	7. RTS	Request To Send	8. CTS	Clear To Send	9. RI	Ring Indicator
1. DCD	Data Carrier Detect																		
2. RD	Receive Data (a.k.a RxD, Rx)																		
3. TD	Transmit Data (a.k.a TxD, Tx)																		
4. DTR	Data Terminal Ready																		
5. SGND	Ground																		
6. DSR	Data Set Ready																		
7. RTS	Request To Send																		
8. CTS	Clear To Send																		
9. RI	Ring Indicator																		

6. SIM interface

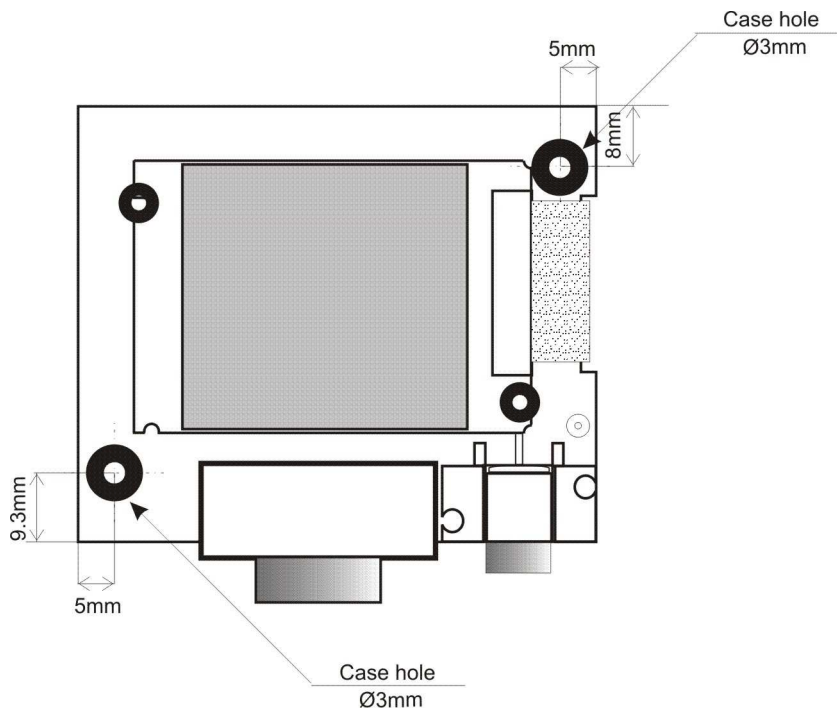


7. Status LED

	Power Down	off
	Not registered to the net (missing SIM, PIN, net)	fast blinking
	Standby (registered to the net)	slow flash (75ms On / 3s Off)
	Sleep mode (Power save modet)	off

8. Attaching the terminal

The XC35/39 Terminal can be attached e.g. to a 35mm top-hat rail installation using two M3 x 50mm screws and an additional fixture element, see Figure on next pictures.



9. Interface Description

Parameter	Description	Conditions		Typ	Max	Unit
$I_{plus}^{2)1)}$	Average supply current (average time 3 min.)	Power Down mode	8-30V	480	550	μ A
		SLEEP mode	8-30V	45		mA
		NET Searching mode	8-30V	70		mA
		IDLE mode	8-30V	60		mA
	Peak supply current (during 577 μ s transmission slot every 4.6ms)	Power control level for Pout max	8-30V	1.7	3.2	A
$t_{PLUS-Fail}$	Allowed powerfail time without terminal reset or power down	After this time the Terminal will be reset or switched off			1	ms
	Allowed powerfail time without RTC (real time clock) reset	After this time the RTC will be reset			7	s
t_{R_PLUS}	Allowed rise time of V_{PLUS}	0% to 100%			20	ms
LE _{Cable}	Length of supply cable				3	m

- 1) Lowest voltage (minimum peak) incl. all ripple and drops >7.6V including voltage drop, ripple and spikes
- 2) Maximum constant power dissipation on the voltage regulator for is 4W. Higher supply voltage rises power dissipation. Max 15 minutes of TALK mode with 18V power supply

10. Characteristics On/Off control lines

Parameter	Description	Conditions	Min	Typ	Max	Unit
V _{high}	Input voltage	active high	5			V
V _{low}	/IGT_IN, /PD_IN, /DTR				1	V
R _{IN}	Input resistance of /IGT_IN, /PD_IN		47			kOhm
t _{D_IGT}	Duration of active high /IGT_IN, /DTR		200			ms
t _{D_PD}	Duration of active high /PD_IN		3.5			s
t _{R_IGT}	Rise time /IGT_IN for power up	0% to 100%			20	ms
t _{R_RTS}	Rise time /DTR for power up	0% to 100%			20	ms
t _{D_passive}	Duration passive (low) of /IGT_IN, /DTR before restart	after power down	1			s

11. RS232 interface

Parameter	Description	Conditions	Min	Typ	Max	Unit
V _{OUT}	Transmitter Output Voltage for /RXD, /CTS, /DSR, /DCD, /RING	@ 5kOhm load	±5	±5.4		V
R _{OUT}	Transmitter Output Resistance /RXD, /CTS, /DSR, /DCD, /RING		300	50k		Ohm
R _{IN}	Input resistance of /DTR		3	5	7	kOhm
V _{RIHYS}	Input Hysteresis			0.5		V
V _{ilow}	Input Threshold Low		0.6	1.1		V
V _{Ihigh}	Input Threshold High			1.5	2.4	V
Baudrate		Autobauding	4.8		115	kbps
		Fixed range	0.300		115	
LE _{Cable}	Length of RS-232 cable			1.8	2	m