



ZDU E-GSM-PLUS-V modem GSM

Installation Manual



1. DESCRIPTION

The ZDUE-GSM-PLUS-V meter modem is designed for the remote reading of electronic meters with serial interfaces via the GSM network. Data are exchanged over the interfaces via the telephone line in transparent mode at a fixed baud rate or in accordance with IEC62056-21.

2. SAFETY NOTES

!IMPORTANT!

The unit's protection systems might not be effective if the unit is used for purposes other than those specified by the manufacturer.

!IMPORTANT!

Before starting any maintenance, change in connections, repair, etc, it must be disconnected from all power sources. When an operating fault or protection fault is suspected, the equipment must be taken out of service. The equipment is designed to be quickly replaced in the event of any breakdown.

General information: The ZDUE-GSM-PLUS V is compliant with the European EN 60950 standard, Safety of information technology equipment.

The ZDUE-GSM-PLUS V has been designed exclusively for permanent installation and only professionally trained electricians are authorized to perform such an installation according to the generally accepted technical rules and regulations governing the setting up of telecommunications equipment and end devices.

The ZDUE-GSM-PLUS V is not designed to be connected to IT systems for electrical energy supply.

Please read through these installation instructions carefully before using the device.

Disconnection from the power supply circuit : An easily accessible, all-pole circuit breaker in the power supply circuit is required for the house installation. Alternatively, a single-pole circuit breaker can be used in the outer conductor as long as a distinct neutral conductor has been integrated into the supply line. In Germany, the circuit breaker must at least meet the requirements of the DIN VDE series 0100 standard.

Installation fuse: For the house installation, there must be an installation fuse that complies with the DIN VDE series 0100 standard and is properly adapted to the cable cross-section of the power supply line. The additional short-circuit protection must have a selectivity of $I \geq 1500$ A.

Strain relief: For the house installation, the lines leading to the ZDUE-GSM-PLUS V must be protected with an adequate strain relief.

Mounting the antenna : When the antenna that is included with the device is mounted outdoors, it is absolutely essential that the antenna is mounted in the bracket by a qualified professional .

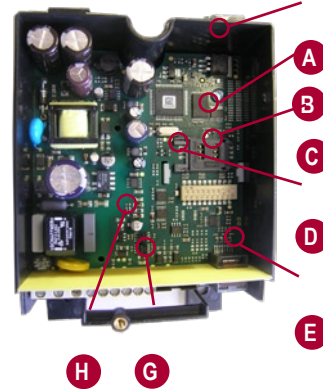
Requirements include adherence to the VDE V 0185 Lightning Protection Standard . Parts 1 to 4, in its current version and any other relevant standards .

Important:

The Building Lightning Protection Class (SK): When the antenna is mounted outdoors, it can only be set up in lightning protection zones O/E or 1. These lightning protection zones are specified by the lightning protection sphere's radius,

The EMC-compliant lightning protection zone concept must be observed. In order to avoid large induction loops, make sure to use lightning protection potential equalization. If the antenna or the antenna cable is mounted near the lightning protection device, minimum distance to the lightning protection device must be observed. If this is not possible, then an insulated installation, as described in the VDE V 018 5 Lightning Protection Standard, Parts 1 to 4, in its current version, is required.

Uses: The ZDUE-GSM-PLUS V is a device designed for the remote inquiry and the remote monitoring of electricity, heat, gas and water meters. It is designed to be used in GSM networks.



A	Status LEE
B	SIM card holder
C	DIP switch
D	GSM status/error LED
E	232 interface
G	terminal block
H	CL jumper

3. OPENING THE DEVICE

In order to insert the SIM card or alter the device settings, you first have to open the device:

- First disconnect all the poles of the device from the electricity supply if it is plugged in there.
- Now unscrew the screw in the terminal cover and remove the cover.
- Now remove the device lid

4. ALTERING THE DEVICE SETTINGS

The basic settings of the ZDUE-GSM-PLUS V are made with the DIP switches [C] inside the device. Select the desired settings before you connect the device.

1	2	3	4	5	6	7	8	9	10	Setting
0										Meter mode active
1										AT mode active
	0									Password protection OFF
	1									Password protection ON
		0	0	0						PIN = 0000
			1	0	0					PIN = 1360
			0	1	0					PIN = 8956
			1	1	0					PIN = 0934
			0	0	1					PIN = 4591
				1	0	1				PIN = 6520
				0	1	1				PIN = 3298
				1	1	1				PIN = 2783
					0	0	0			Local bit rate 300 bps
					1	0	0			Local bit rate 1200 bps
						0	1	0		Local bit rate 2400 bps
						1	1	0		Local bit rate 4800 bps
						0	0	1		Local bit rate 9600 bps
						1	0	1		Local bit rate 19200 bps
						0	1	1		Local bit rate 38400 bps
						1	1	1		reserved
								0		Mode C operation ON
								1		Mode C operation OFF
								0		Data format 7E1 local / GSM
								1		Data format 8N1 local / GSM

5. SETTING THE PIN OF THE SIM CARD

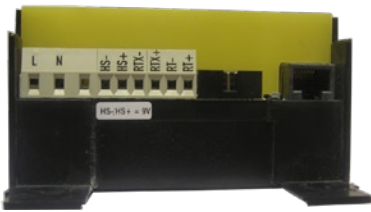
In order to operate the ZDUE-GSM-PLUS-V, you will require a 3 V plug-in SIM card from a GSM network operator. Set the PIN number of the SIM card to one of the possible 8 that you can also set for the ZDUE-GSM-PLUS-V with the DIP switches [3:5].

6. INSERTING THE SIM CARD

- Insert the SIM card as follows:
 1. Open the SIM card holder by gently pressing the lid towards the edge of the device, flip it up and insert the SIM card into the slot in the holder. The gold-plated contacts on the SIM card have to lie on the gold-plated contacts of the holder when the holder is closed. Close the lid of the SIM card holder and lock it by pressing it gently back towards the center of the device. You will feel it click into place.
 2. Now replace the device lid and the terminal cover.

7. CONNECTING THE DEVICE

First connect the meter to the device and then connect the power supply.



The device is equipped with 3 different meter interfaces. Only one of them can be used at any one time.

RS-232 interface (RJ45- Jack)

PIN	Signal	Description
2	DCD	Salida: activa para conexión GSM
4	GND	Tierra / Neutro
5	TXD	Salida ; datos al contador
6	RXD	Output: datos del contador

Señales y niveles de acuerdo con V.24 / V.28.
Todos las demás entradas están reservadas

RS-485 interface (terminal block):

Signal	Description
RT-	Negative RS-485 interface signal
RT+	Positive RS-485 interface signal

Dual-wire RS-485 interface to connect up to 32 transceivers. The bus connection is terminated to $Z=120$ Ohms (nominal) (RT+ to RT-) and the cable length is limited to 1000 m.

CL1 interface (terminal block):

Signal	Description
RTX-	Negative Cl 1 interface signal
RTX+	Positive Cl 1 interface signal

20mA power interface (current loop) to connect meters with the power supply interface according to DIN EN 62056-21. Approx. 4 meters can be connected to this interface. Important: If the CL1 interface is not in use, insert Jumper [H]. Otherwise, the other interfaces will not operate.

Auxiliary power source (terminal block):

Signal	Description
HS-	Negative pole of the auxiliary power supply
HS+	Positive pole of the auxiliary power supply

Auxiliary power supply of 12 V / max. 100 mA.
The auxiliary power supply is not available for all the ZDUE-GSM-PLUSV models.

Power supply (terminal block):

Signal	Description
L	AC: $U_{nom} = 100 \dots 230$ Vac
N	DC: $U_{nom} = 60 \dots 100$ Vdc

$I_{nom} = 42 \dots 84$ mA

8. CONNECTING THE ANTENNA

The antenna is connected to the Type FME antenna jack. The antenna should be installed to ensure adequate signal quality. Make sure that there are no large metal objects (e.g. reinforced concrete) near the antenna, since they will have an adverse effect on signal quality. Please observe the safety instructions at the beginning of this manual when installing the antenna. Have this installation done by a qualified professional! Be sure to observe the instructions included with your antenna.

9. LIGHT-EMITTING DIODES (LEDS)

Status LED	LED (A)	Green on	Power supply available
GSM status /error	LED (D)	Orange flashing	- Error, e.g. PIN error (3.75 s ON /250 ms OFF) - Network search - Field strength (1..4 times flashing (each time 250 ms ON) within 2 s)
		Orange on	GSM-Connect

10. CONNECTIONS

RJ 45 (Modem)	DB9 Hembra RS-232 (CWT)	R11 (CWT)
PIN 4	5	PIN 1 Y 6 (Puente)
PIN 5	2	PIN 2
PIN 6	3	PIN 3
	Puente 4 – 6 Puente 7 -8	

11. TECHNICAL SERVICE

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