

SD Card Module

User manual



Version 1.1





1. Index			
1. Index	2		
2. Preface	3		
2.1. Description of system			
2.2. Software			
2.3. Documents	3		
3. Dimensions			
4. Technical data			
5. Configurations			
6. Front panel			
7. Maximum number of records	7		
8. The storing of files and folders			
9. Software	8		
1.1 Introduction	8		
1.2 Functions	8		
1.3 Parameters			
1.4 Commands	10		
1.5 Menu	11		



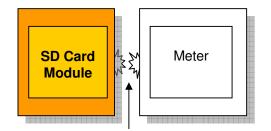


2. Preface

2.1. Description of system

This manual describes the use of the SD Card communication module.

The following layout indicates an example of the use of the module.





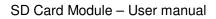
2.2. Software

The SD-Card memory contains the **SD-Card program:** this is a software for MS Windows ® that is used to configure the recording parameters of the communication module

2.3. Documents

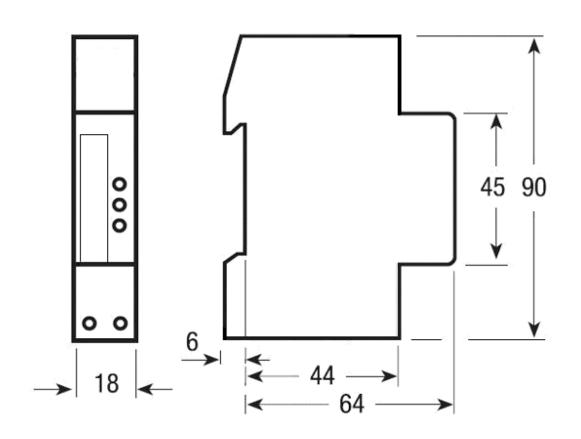
Brief instructions (enclosed) The most important data for quick installation SD Card Module - User manual...... These instructions for use



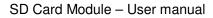




3. Dimensions









4. Technical data

Data in compliance with IEC 60950, EN 61000-6-2, EN 61000-6-3 and EN 61000-4-2					
General characteristics					
- Housing	DIN 43880	DIN	1 module		
- Mounting	EN 60715	35 mm	DIN rail		
- Depth		mm	70		
Power supply					
 Voltage rating 		VAC	12 24		
		VDC	12 24		
 Frequency range 		Hz	4565		
Operating features					
- SD-Card memory			1 to 8 Gigabytes		
- Suitable for both single-phase a	yes				
Interface to measuring					
instrument					
- HW interface	optical IR	n°	2 (Tx, Rx)		
- SW protocol		-	Proprietary		
Safety acc. to EN 60950					
- Degree pollution			2		
 Overvoltage category 			II		
- Working voltage		V	12 24		
- Clearance		mm	≥ 1.5		
- Creepage distance	in equipment	mm	≥ 2.1		
- Test voltage	impulse (1,2/50µs) peek value	kV	2.5		
	50 Hz 1 min.	kV	1.35		
- Housing material flame	UL 94	class	V0		
resistance					
Connection terminals					
- Type cage	screw head Z +/-	POZIDRIV	PZ0		
- Terminal capacity	solid wire min. (max.)	mm²	0.15 (2,5)		
	stranded wire with sleeve min.	mm²	0.15 (4)		
	(max.)				
Environmental condition					
- Operating temperature		°C	-10 +55		
- Limit temperature of storage		°C	-25 +70		
- Relative humidity		%	≤ 80		
- Vibrations	Sinusoidal vibration amplitude	mm	± 0.25		
	at 50 Hz				
- Protection class	acc. to IEC 60950				
- Degree of protection	housing when mounted in front		IP20		





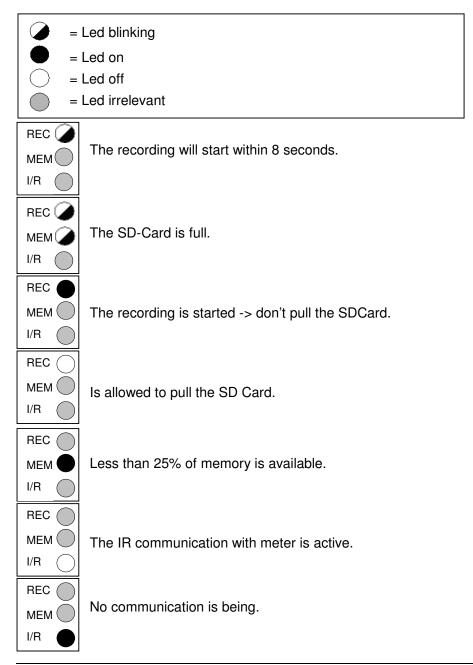
5. Configurations

SD Card dimension: Recording rate: Connectable meters:

1-2-4-8 GByte 30 seconds, 1-2-5-10-30 minutes, 1-2-4-8-24 hours Single-phase and three-phase

6. Front panel

Three green LEDs notify the communication state, the recording state and the SD-Card:







SD Card Module – User manual 7. Maximum number of records

If the whole set of data is selected, it is possible to store approximately 1,250,000 records for each Gigabyte, and, if the minimum rate (30 seconds) is selected, each Gigabyte ensures 1 year and 4 months of storage. If the storage frequency decreases, the SD-Card filling time increases; for example: selecting the whole set of data and selecting 1 minute, each Gigabyte ensures 2 years and 9 months of storage.

8. The storing of files and folders

To facilitate the import file, the size of the file generated is limited to 1.34 MB.

When the file SDCARD.CSV reaches this size is automatically saved to a file SDxxxxx.CSV, where the "xxxxxx" name is calculated through an algorithm that has as parameters the date and the time of creation, so that the files are unique.

The file SDCARD.CSV is in the folder EXCELTAB that may contain up to 100 files; once filled, this folder is stored under the name EXxxxxx and the determination of the "xxxxxx" uses the same algorithm used for saving files .

The maximum number of files in different SDCard is:

SDCard 1 GB: 600 files (6 folders)

SDCard 2 GB: 1300 files (13 folders)

SDCard 4 GB: 2700 files (27 folders)

SDCard 8 GB: 5500 files (55 folders)





9. Software

1.1 Introduction

The SD Card software is a simple application, designed to create or to modify the file "profile.dat".

1.2 Functions

Two sections can be chosen on the main window:

• 3 - phase

D Card Open Save Language Exit					
3 - phase 1 - phase					
🔲 ovs(126) - Serial Number	ovs(20) - Exp.Act.En.L1 T2	ovs(37) - Exp.React.En.L2 T2	ovs(54) - Apparent Power L2		
🔲 ovs(0) - Imp.Act.En.L1 T1	ovs(21) - Exp.Act.En.L2 T2	ovs(38) - Exp.React.En.L3 T2	🔲 ovs(55) - Apparent Power L3		
ovs(1) - Imp.Act.En.L2 T1	ovs(22) - Exp.Act.En.L3 T2	✓ ovs(39) - Exp.React.En. S T2	ovs(56) - Apparent Power S		
🔽 ovs(2) - Imp.Act.En.L3 T1	🔽 ovs(23) - Exp.Act.En. S T2	🔲 ovs(40) - React.Pw L1	🔲 ovs(57) - Power factor L1		
vovs(3) - Imp.Act.En.S T1	🗖 ovs(24) - Imp.React.En.L1 T1	🔽 ovs(41) - React.Pw L2	ovs(58) - Power factor L2		
ovs(4) - Imp.Act.En.L1 T2	ovs(25) - Imp.React.En.L2 T1	🔲 ovs(42) - React.Pw L3	ovs(59) - Power factor L3		
ovs(5) - Imp.Act.En.L2 T2	ovs(26) - Imp.React.En.L3 T1	🔲 ovs(43) - React.Pw S	ovs(60) - Power factor S		
ovs(6) - Imp.Act.En.L3 T2	✓ ovs(27) - Imp.React.En. S T1	ovs(44) - Voltage L1	ovs(61) - Netfrequency		
vvs(7) - Imp.Act.En.S T2	🗖 ovs(28) - Imp.React.En.L1 T2	🔽 ovs(45) - Voltage L2	🔽 ovs(64) - Device Type		
🔲 ovs(8) - Act.Pw L1	ovs(29) - Imp.React.En.L2 T2	🗖 ovs(46) - Voltage L3	🔲 ovs(65) - Over/Under Voltage		
ovs(9) - Act.Pw L2	🗖 ovs(30) - Imp.React.En.L3 T2	ovs(47) - Voltage L1-L2	ovs(66) - Phase error		
ovs(10) - Act.Pw L3	🔽 ovs(31) - Imp.React.En. S T2	🗖 ovs(48) - Voltage L2-L3	ovs(67) - Range overflow		
🔽 ovs(11) - Act.Pw S	🗖 ovs(32) - Exp.React.En.L1 T1	🗖 ovs(49) - Voltage L3-L1	🔲 ovs(68) - Info phase 1		
🔽 ovs(16) - Exp.Act.En.L1 T1	🗖 ovs(33) - Exp.React.En.L2 T1	🗖 ovs(50) - Current L1	🔽 ovs(69) - Info phase 2		
🔲 ovs(17) - Exp.Act.En.L2 T1	🗖 ovs(34) - Exp.React.En.L3 T1	🗖 ovs(51) - Current L2	🔽 ovs(70) - Info phase 3		
🔲 ovs(18) - Exp.Act.En.L3 T1	🔽 ovs(35) - Exp.React.En. S T1	🗖 ovs(52) - Current L3	🔲 ovs(90) - Warning bit		
🔽 ovs(19) - Exp.Act.En. S T1	🗖 ovs(36) - Exp.React.En.L1 T2	🗖 ovs(53) - Apparent Power L1	🗖 ovs(92) - Operating tariff		
SD card dimension Connected	Meter Recording rate Date fo	Decimal separat	tor		
		. (comma)			
1G 💌 3-phase	▼ 5 Min. ▼ DD/MM/	11 _ (dot)			
Date and time: Update date/	ime 🗖 Select all	Deselect all Select Ene	rgies Exit		

The "3 – phase" section shows the list of available values when the device is connected to a threephase energy meter or a three-phase power meter or a three-phase multi counter.

The values that have T1 or T2 suffix refers to parameters relating to Tariff 1 or to Tariff 2.

The values that have L1 or L2 or L3 or S suffix refers Phase1, Phase 2, Phase 3 or to three phases values.





• 1 – phase

SD Card	
Open Save Language Exit	
3 - phase 1 - phase	
🔽 ovs(126) - Serial Number	ovs(44) - Voltage
vs(0) - Imported Active Energy T1	ovs(50) - Current
✓ ovs(4) - Imported Active Energy T2	ovs(53) - Apparent Power
ovs(8) - Active Power	ovs(57) - Power factor
✓ ovs(16) - Exported Active Energy T1	r ovs(61) - Netfrequency
✓ ovs(20) - Exported Active Energy T2	ovs(64) - Device Type
✓ ovs(24) - Imported Reactive Energy T1	ovs(65) - Over/Under Voltage
✓ ovs(28) - Imported Reactive Energy T2	ovs(67) - Range overflow
✓ ovs(32) - Exported Reactive Energy T1	ovs(68) - Info phase
✓ ovs(36) - Exported Reactive Energy T2	🔽 ovs(90) - Warning bit
r ovs(40) - Reactive Power	└─ ovs(92) - Operating tariff
SD card dimension Connected Meter Recording rate	Date format Decimal separator
1G 💌 3 - phase 💌 5 Min. 💌	DD/MM/YY
Date and time:Update date/time	II Deselect all Select Energies Exit

The "1 – phase" section shows the list of available values when the device is connected to a single-phase meter.

The values that have T1 or T2 suffix refers to Tariff 1 or to Tariff 2.







• SD card dimension

Select the size of the card used.

The available values are :

- 1G = 1 Gigabyte (Default)
- 2G = 2 Gigabyte
- 4G = 4 Gigabyte
- 8G = 8 Gigabyte

Connected Meter

Select the meter connected to the module.

The available values are :

- 3 phase = Three phase meter (Default)
- 1 phase = Single phase meter

• Recording rate

Select the recording interval.

The available values are : 30 seconds, 1-2-5 (Default)-10-30 minutes, 1-2-4-8-24 hours

• Date format

Select the format of the recorded date.

The available values are : DD/MM/YY (Default), DD.MM.YY, MM/DD/YY and MM.DD.YY.

• Decimal separator

Select the decimal separator of the recorded number. The available values are : ", (comma)" (Default) and ". (dot)"

• Update date time

If this box is checked, the program creates a file that updates the internal clock of the module.

1.4 Commands

Select all

Use this command in order to select all boxes.

• Deselect all

Use this command in order to deselect all boxes.

• Select Energies

Use this command in order to select all the energy boxes.

• EXIT

Use this command in order to close the program.





1.5 Menu

• Open

This menu item opens a ".dat" file selected by the user.

• Save

This menu item saves the file Profile.dat into the current directory.

• Language

Use its three sub-item in order to change the application language. The sub-items are : English, Italiano and Deutsch.

• Exit

Use this menu item in order to close the program.





All of the above information, including drawings, illustrations and graphic designs, reflects our present understanding and is to the best of our knowledge and belief correct and reliable. Users , however, should independently evaluate the suitability of each product for the desired application. Under no circumstances does this constitute an assurance of any particular quality or performance. Such an assurance is only provided in the context of our product specifications or explicit contractual arrangements. Our liability for these products is set forth in our standard terms and conditions of sale.

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