SD Card Module

User manual

Version 1.1

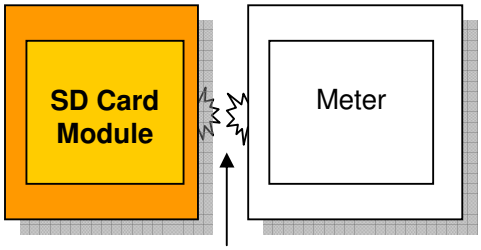
1. Index

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.



IR Interface

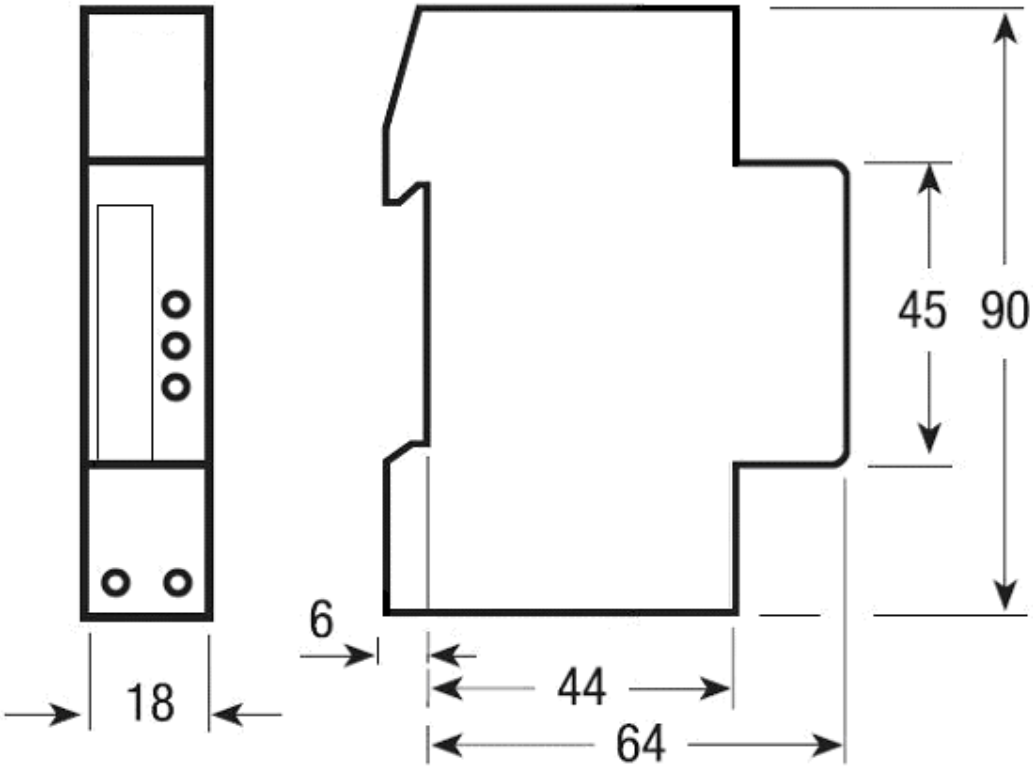
2.2. Software

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

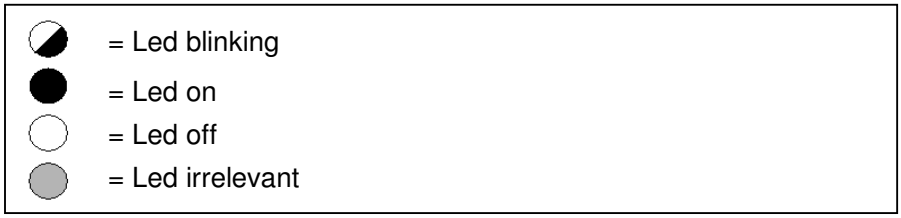
General characteristics - Housing - Mounting - Depth	 DIN 43880 EN 60715	 DIN 35 mm mm	 1 module DIN rail 70
Power supply - Voltage rating - Frequency range		 VAC VDC Hz	 12 … 24 12 … 24 45 …65
Operating features - SD-Card memory - Suitable for both single-phase and three-phase energy meters			 1 to 8 Gigabytes yes
Interface to measuring instrument - HW interface - SW protocol	 optical IR	 n° -	 2 (Tx, Rx) Proprietary
Safety acc. to EN 60950 - Degree pollution - Overvoltage category - Working voltage - Clearance - Creepage distance - Test voltage - Housing material flame resistance	 in equipment impulse (1,2/50µs) peek value 50 Hz 1 min. UL 94	 V mm mm kV kV class	 2 II 12 … 24 ≥ 1.5 ≥ 2.1 2.5 1.35 V0
Connection terminals - Type cage - Terminal capacity	 screw head Z +/- solid wire min. (max.) stranded wire with sleeve min. (max.)	 POZIDRIV mm^2 mm^2	 PZ0 0.15 (2,5) 0.15 (4)
Environmental condition - Operating temperature - Limit temperature of storage - Relative humidity - Vibrations - Protection class - Degree of protection	 Sinusoidal vibration amplitude at 50 Hz acc. to IEC 60950 housing when mounted in front	 ˚C ℃ % mm	 -10 … +55 -25 ... +70 ≤ 80 ± 0.25 II IP20

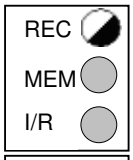
5. Configurations

SD Card dimension:	1-2-4-8 GByte
Recording rate:	30 seconds, 1-2-5-10-30 minutes, 1-2-4-8-24 hours
Connectable meters:	Single-phase and three-phase

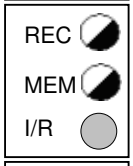
6. Front panel

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

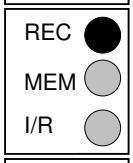




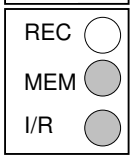
The recording will start within 8 seconds.



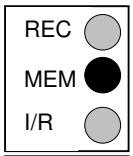
The SD-Card is full.



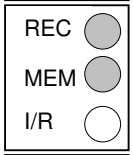
The recording is started -> don't pull the SDCard.



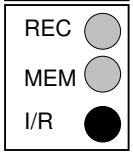
Is allowed to pull the SD Card.



Less than 25% of memory is available.



The IR communication with meter is active.



No communication is being.

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 SDxxxxxx.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 EXxxxxxx 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

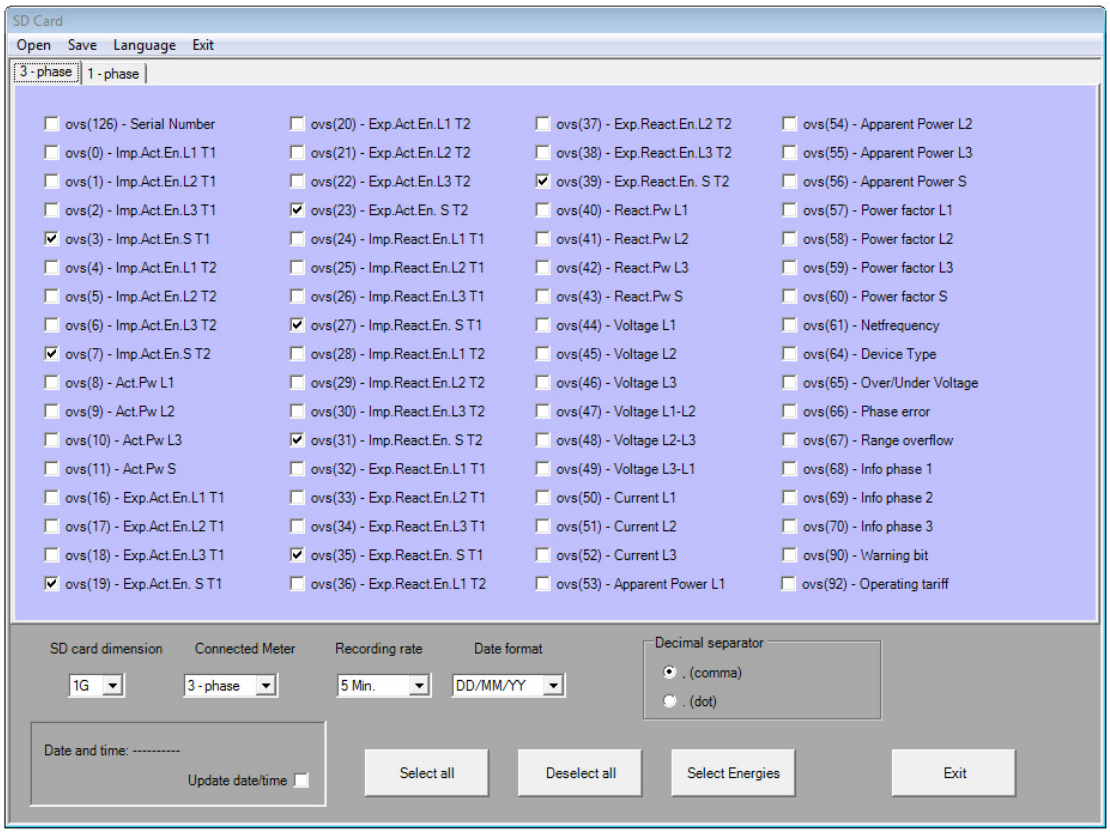
1.1 Introduction

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**

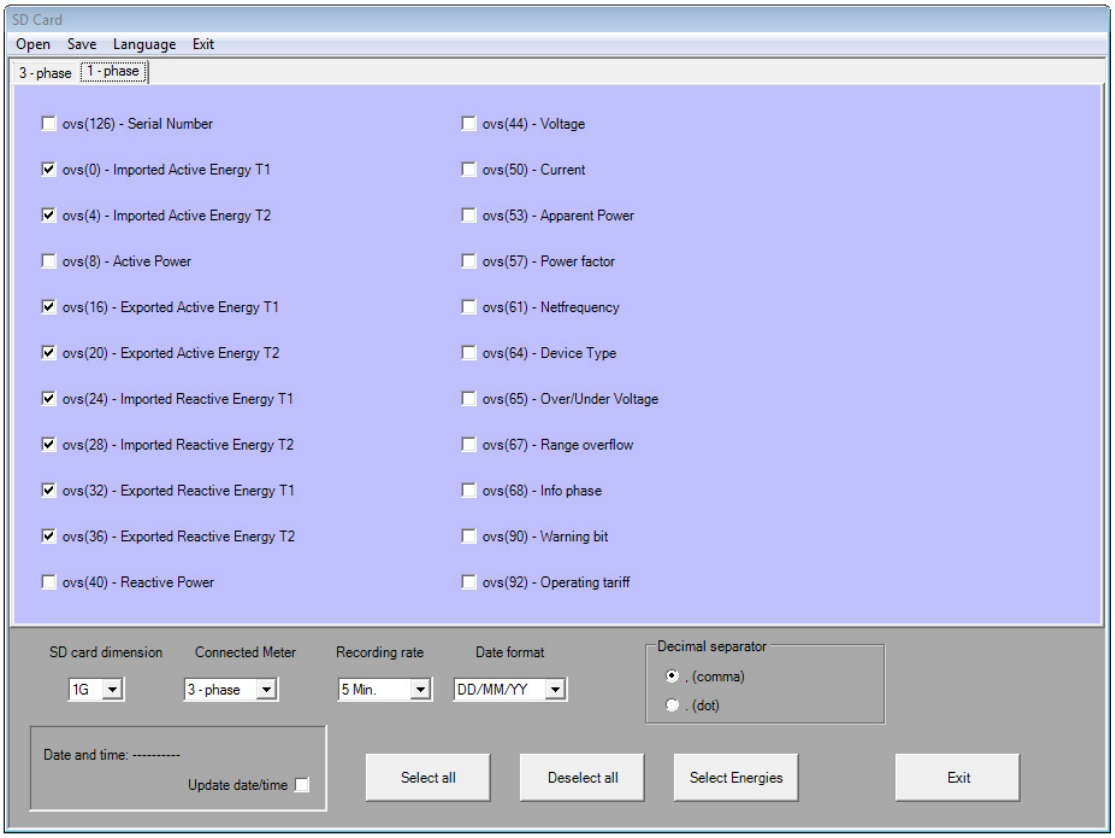


The “3 – phase” section shows the list of available values when the device is connected to a three-phase energy meter or a three-phase power meter or a three-phase multi counter.

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**



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.

1.3 Parameters

- **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.

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