

SDK-75C (KWh METER)

Λ **SYSTEM VOLTAGES:** 3P4W – (3 X 240 V AC)

Λ **PHASE TO PHASE VOLTAGES:** 415 V AC

Λ **CURRENT INPUT:** -/5 Amp & -/1 Amp. [CTR SELECTABLE]

Λ **AUXILIARY SUPPLY:** 240V AC.

Λ **STANDARDS USED :** STABLE AC VOLTAGE & CURRENT SOURCE, PHASE SHIFTING TRANSFORMER, POWER METER & INTEGRATOR WITH BASIC ACCURACY OF 0.35%, STANDARD ENERGY METER OF ACCURACY CLASS 0.5s TRACEABLE TO NATIONAL STANDARDS.

Λ **TRACEABILITY:** THE ABOVE METER(S) WAS TESTED AND CALIBRATED AGAINST "MTE"0.05 STANDARD (MASTER CALIBRATING INSTRUMENT) MODEL PRS 1.3. THE MTE STANDARD METER IS TRACEABLE TO INTERNATIONAL STANDARDS.

Λ **SPECIAL REMARK:** A + B - Terminals are RS485 O/P.

Λ **RESULT OF TESTS:** Pass

Λ **TEST ENGINEER:** KST

DATE: 03/07/2024

WARRANTY

THE EQUIPMENT SUPPLIED UNDER THIS T.C. IS GUARANTEED AGAINST DESIGN, MANUFACTURING AND WORKMANSHIP DEFECTS FOR A PERIOD OF 5 YEARS FROM THE ABOVE DATE. STEFAN ELECTRIC UNDERTAKES TO REPLACE / REPAIR THE FAULTY UNIT AT OUR WORKS FREE OF COST. THE MANUFACTURER'S LIABILITY IS LIMITED TO THE VALUE OF GOODS SUPPLIED. THE MANUFACTURER WILL TAKE NO RESPONSIBILITY FOR ANY CONSEQUENTIAL DAMAGE CLAIMED WHATSOEVER. THIS WARRANTY CERTIFICATE IS REQUIRED TO BE PRODUCED FOR OBTAINING ANY REPAIR OR REPLACEMENT / SERVICE FROM THE MANUFACTURER. THE MANUFACTURING RESERVES THE RIGHT TO DETERMINE THE REASON FOR DEFECT / DAMAGE BEFORE PROVIDING SERVICE.

INSTALLATION & COMMISSIONING

1. Push the unit into the panel and mount using the clamps provided.
2. Connect the three phases with the phase sequence being R-Y-B to the corresponding terminals on the unit. Make sure that the three phases coming to the unit come through control fuses of 1.0 Amp rating. This will protect the electronics inside from damage due to severe over voltages or phase faults in the system.
3. In case of three phases four wire systems, connect the neutral to the terminal marked N.
4. Connect the two wires from the R-phase CT to terminals marked M1 & L1 such that S1 from CT goes to M1 on the unit.
5. Connect the two wires from the Y-phase CT to terminals marked M2 & L2 such that S1 from CT goes to M2 on the unit.
6. Connect the two wires from the B-phase CT to terminals marked M3 & L3 such that S1 from CT goes to M3 on the unit.
7. Switch on the auxiliary supply. The unit will come alive. The first parameter to be displayed will be CT ratio. This is displayed only once, at the time of start-up of the unit. **Unit will display KWh value.**
- 8.

Λ **CHANGING CT PRIMARY:**

Press the  key continuously till the display shows present CT primary. Now, using the  key again, increase the CT primary till you reach the desired ratio. The CTR can be changed in steps of 5A up to 200A, and in steps of 25A thereafter up to 5000A. After reaching 5000, if the key is kept in pressed

condition, the CTR will rollover and start with 5 amps again. When the desired CT ratio is reached, leave the  key. After 10 seconds, the meter will automatically reset and show the CT ratio which has been programmed, and then show first page

Λ **CHANGING CT SECONDARY:**

Press  key for about 4 to 5 seconds on Run Mode display. The unit will enter into Programming Mode & display current CT PRIMARY.

Press  key unit will show the present CT SECONDARY. Press  key. Immediately, P starts blinking. Set the CT SECONDARY by

using  and  keys and then, press  key to confirm the set value.

Now, the unit will reset and return into Run Mode.

STEFAN ELECTRIC

Protocol details for RS485 MODBUS communication of meter SDK-75C

Communication Line Parameters: 9600 / 8 / N / 1.

The register map is described below. All addresses are in decimal. All parameters are Unsigned long. If illegal address is sent in the query or the host tries to read more than 32 bytes of data in one query, exception message is generated.

The parameter name (description) and multiplication factors are also mentioned. Reserved values are for future use. They are transmitted as zeroes.

3 Phase 3000 - 3019	R phase 3030 - 3049	Y phase 3060 - 3079	B phase 3090 - 3109	MF
Reserved	KWh	Reserved	Reserved	X100
Reserved	Reserved	Reserved	Reserved	X100
Reserved	Reserved	Reserved	Reserved	X100
Reserved	Reserved	Reserved	Reserved	X1000
Reserved	Reserved	Reserved	Reserved	X100
Reserved	Reserved	Reserved	Reserved	X100
Reserved.	Reserved	Reserved	Reserved	X100

e.g. =Thus if the KWh value on 278.99, it is sent out as 27899.

If an attempt is made to read from some address other than the valid addresses, the exception response is sent.

EXCEPTION CODE

In the event that the query from the HOST has no communication error, but there is some error in specifying the address of registers to be read, the meter returns an exception message. The format of the exception message will be as

Under:

Unit Address	0x83	Exception code	CRC	CRC
--------------	------	----------------	-----	-----

Exception Code can have only one value: 03: If the address is not a valid start address or host has requested more than 32 bytes of data, this code is returned.

CHANGING STATION ID:

Press  key for about 4 to 5 seconds on Run Mode display. The unit will enter into Programming Mode & display present unit address. Press  key. Immediately, P starts blinking. Set the ADDRESS by using  and  keys until the desired value is received and then, press  key to confirm the set value.

Now, the unit will reset and return into Run Mode.

STEFAN ELECTRIC