

SMY-CA

Robust Waterproof Compact Analyser



Analyser of electric network parameters SMY-CA is a measuring and data logging instrument for single- and three phase low voltage (up to 230/400V) distribution networks in substations, switchgear boxes, cubicles or directly at the consumers premises such as smart buildings, hospitals, industrial infrastructures etc.

Core of the instrument is a modified SMY 133 analyser. Its features and functions closely corresponds to IP65 mini case version -CA.

With PQ S firmware module instrument becomes a fully featured power quality analysers with support for flicker indices (Pst, Plt), record of voltage events and weekly power quality evaluations according to EN 50160.

Standard

INPUTS 3U, 3I	MEASUREMENT U,I,P,Q	PF,cos,THD	+/- Wh,varh	HARMONICS 50	SAMPLING 25,6kHz	CURRENT INPUT 333mV
FLASH 512MB	STANDARDS IEC 61557-12	USB	ETH	WEBSERVER	NTP	

Optional

STANDARDS EN 50160
STANDARDS class S IEC 61000-4-30

Technical specification

METERING	Voltage (ULN, ULL)	U1, U2, U3, U12, U23, U31 [act, avg, avg _{max} , avg _{min}]
	Current (I)	IL1, IL2, IL3 [act, avg, avg _{max} , avg _{min}]
	Power (P)	P1, P2, P3, 3P (import, export, total, 1 st harmonic) [act, avg, avg _{max} , avg _{min}]
	Reactive Power (Q)	Q1, Q2, Q3, 3Q (import, export, total, 1 st harmonic) [act, avg, avg _{max} , avg _{min}]
	Apparent Power (S)	S1, S2, S3, 3S [act, avg, avg _{max} , avg _{min}]
	Harm. Distortion Power (D)	D1, D2, D3 [act, avg, avg _{max} , avg _{min}]
	Power Factor (PF), cosφ	PF1, PF2, PF3, 3PF, cosφ1, cosφ2, cosφ3, 3cosφ [act, avg, avg _{max} , avg _{min}]
	Symmetrical Components	zero, negative and positive sequence components of voltage and current
	Unbalance Factor	unbl, unbU, φnsl
	Voltage THD (THDU)	THDU1, THDU2, THDU3, THDU12, THDU23, THDU31
	Current THD (THDI)	THDI1, THDI2, THDI3
	Individual Harmonics	Harmonics 1 st to 50 th of Voltage and Current and their angles
	Fundament. Harmonic (Ufh, Ifh)	U1fh, U2fh, U3fh, I1fh, I2fh, I3fh
	Frequency (f)	f
	Active Energy	class 0.5S (62053-22), import/export, per phase, per tariff, total
	Reactive Energy	class 2 (62053-23), 4 quadrants, per phase, per tariff, total
DATALOGGING	Main Archive	min., max., avg. values of ULN, ULL, I, P, Q, S, D, THDU, THDI, f, Avg. values of harmonics and their angles, Ufh, Ifh, Symmetrical components, Unb. factors, state of I/Os
	Electricity Meter Readings	Active and reactive imp. and exp. energy per phase (L1, L2, L3) and per tariff (T1, T2, T3)
	Voltage Event logging	optional firmware module PQ S
	Waveforms recording	optional firmware module GO
OTHERS	Alarms	Logical functions, under/over limit of U, I, P, Q, S, unbl, THD, cos, f
	Inputs/Outputs	-
	Memory Size	512MB
	RTC	seconds, minutes, hours, days, months, years
	Communication	USB, Ethernet

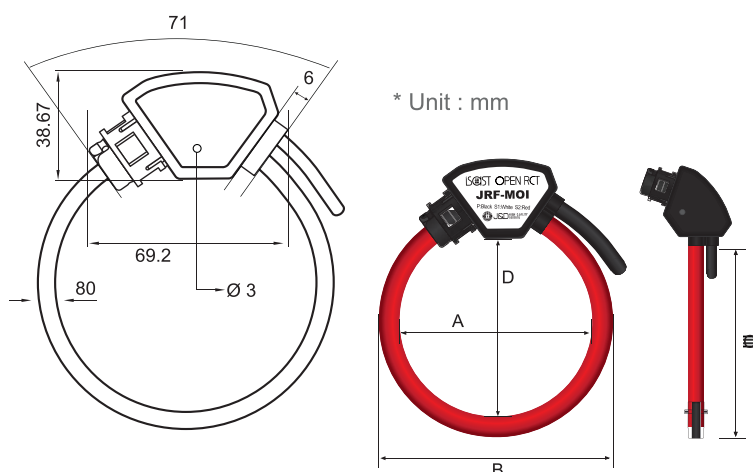
POWER	aux. voltage	100 ÷ 500 V _{AC}	OTHER	TEMP	operating	-25 ÷ 60°C, <95% non-condens.
	power	8 VA / 3 W		TEMP	storage	-40 ÷ 80°C, <95% non-condens.
	overvoltage cat.	CAT III / 300 V		EMC	emission	EN 61000 – 4 – 2, 3, 4, 5, 6, 11
INPUT	VOLTAGE	measuring range			immunity	EN 55011, EN 55022 - class A
		measurement category			protection rating	IP 65 (when top lid is closed)
	CURRENT	measuring range			dimensions	96W × 96H × 58D mm / 0,3 kg

COMMUNICATION	Local USB 2.0 KMBlong, MODBUS RTU protocols Connector type Mini-B	ACCURACY (IEC 61557-12)	voltage	0.2
	Ethernet KMBlong, MODBUS TCP protocols		current	0.2
			active power	0.5
			reactive power	1
			apparent power	0.5
			PF, cosφ	0.5
			frequency	0.02
			active energy	0.5
			reactive energy	2
			harm. and THD	2
			unbalance	0.5

Current sensors

Instruments with this option features 333mV AC input for measuring current using special current transformers. This special input supports various flexible rogowski coil current transformers as well as other kind of transformers with 333mV AC output such as split-core CTs or clamps.

Sensor Model	Inom [A]	d [mm]	Overvoltage Category
CA-JRF MOI 333M-80 100	100 A	80 mm	600V CAT IV
CA-JRF MOI 333M-80 300	300 A	80 mm	600V CAT IV
CA-JRF MOI 333M-115 100	100 A	115 mm	600V CAT IV
CA-JRF MOI 333M-115 300	300 A	115 mm	600V CAT IV
CA-JRF MOI 333M-115 1000	1000 A	115 mm	600V CAT IV
CA-JRF MOI 333M-115 2500	2500 A	115 mm	600V CAT IV
CA-JRF MOI 333M-200 3000	3000 A	200 mm	600V CAT IV



Model		B	C	D
CA-JRF MOI 333M-80	80	96	285	80
CA-JRF MOI 333M-115	115	131	385	115
CA-JRF MOI 333M-200	200	216	628	200

Optional firmware modules

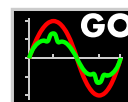
PQ S module

Module for evaluation of power quality according to EN 50160 (class S). Enables measurement and recording of flicker indices, interharmonics and voltage events. Power quality is evaluated weekly and stored to special PQ Main archive for future processing.



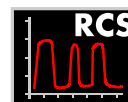
GO module

Module for detection and precise recording of various waveform distortions. This module records the so called oscillograms of voltages and currents in extended detail, capacity and trigger options into the flash memory.



RCS module

The RCS module (ripple control signal or mains voltage) activates an ability to detect, evaluate, decode and store RCS messages transmitted over the distribution network. It precisely measures voltage on the selected frequency and stores the extracted information.



Typical connection schema

