



ST-081SM-53 & ST-081SM-73

LOW-VOLTAGE CURRENT TRANSFORMERS

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OUTDOOR LOW-VOLTAGE CURRENT TRANSFORMER ST-081-SM



ST-081-SM is a low-voltage (0.72kV) outdoor installation current transformer dedicated to power balance systems which use current transformers to supply currents to power equipment measuring systems. Current transformers ST-081-SM are directly installed on the low-voltage bushings of the power transformers with intention to transform power transformers' low-voltage current, in range of 100-1000A, to suitable currents for measuring power equipment systems of 5A.

The values of the accuracy class of the current transformer ST081sm and its rated burden are given (measured) at the ends of the (two) cables of variable sizes (usually $\geq 6\text{m}$) meaning the losses in the connecting cables are compensated.

OPERATING CONDITIONS

The current transformer ST-081-SM, with protection class IP44, is adapted to operate in the outdoor climate conditions with the ambient temperatures of -35 degrees Celsius to +45 degrees Celsius. In such conditions, error limits and the rated long duration thermal current of the transformer correspond to the extended current range for 120% In.

CONSTRUCTION

Active part of the current transformer ST-081-SM consists of magnetic core made of cold rolled oriented steel which is casted in epoxy resin together with the high quality copper secondary windings. Transformer does not have a primary winding but uses the conducting bushings of the power transformer and thus its dimensions and the separation between two current transformers are adjusted accordingly. Each transformer has the secondary side terminals in shape of 6m long, 2.5mm² thick cable with clearly marked with numbers 1 and 2. Multi-coloured cables are also available on customers request.

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FIXING

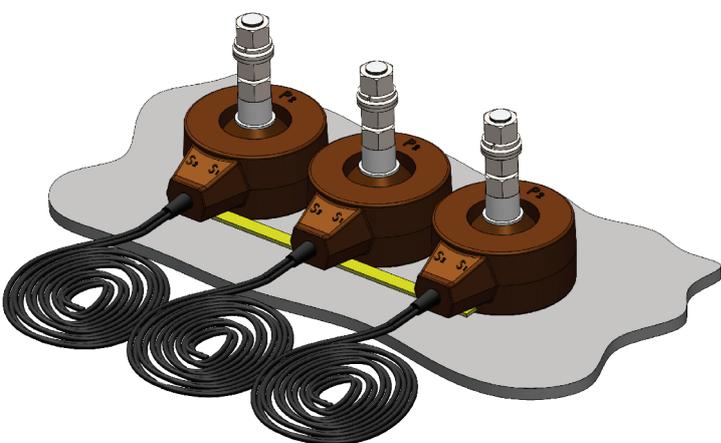


Fig 1 - Horizontal installation

Since current transformer ST-081-SM is single-phase low power transformer, three current transformers are needed for three-phase systems.

Transformers can be installed in two possible ways, "horizontal" and "pyramid" as illustrated on the left.

When installed horizontally (fig.1), transformers ST-081-SM are placed on the power transformers' in such a way that the low voltage busings (of the power transformer) can be located centrally in the current transformers window. However if the distance between power transformer's bushings is small, current transformers might be on top of each other, in so called "pyramid" shape (fig.2).

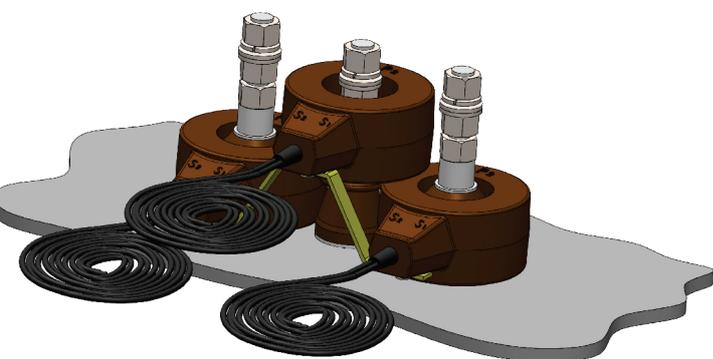


Fig 2 - Pyramid installation

In either situation, transformers should be protected/stopped from shifting by using M6 threaded hole in the cable lead part. We suggest using an M6 bolt and straight flat bar in order to immobilize installed current transformers when placed in the "horizontal" way or a trapezoid flat bar when they are arranged in the "pyramid".

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PACKING, TRANSPORTATION AND STORAGE

Current transformers are placed in high quality cardboard boxes. The number of current transformers in each cardboard box is usually 3 or 4 but can be as requested by the customer. Current transformers transported at a long distance are placed in wooden crates protecting them from damage.

During the loading and unloading, crates with transformers must not be thrown or turned over. Signs and labels on the wooden crates (or cardboard boxes) concerning the transportation and storage of transformers must be fully respected as transformers might be sensitive to mechanical damage.

Transformers must be stored in dry and clean rooms/warehouses with temperature close to "room temperature" (around 20 degrees Celsius). Transformers in wooden crates should not be stored outside.

SPARE PARTS

Low-voltage current transformer ST081sm is an unreparable apparatus and thus no spare parts are provided.

COMPLIANCE WITH STANDARD

IEC 60044-1

SRPS EN 61869-1

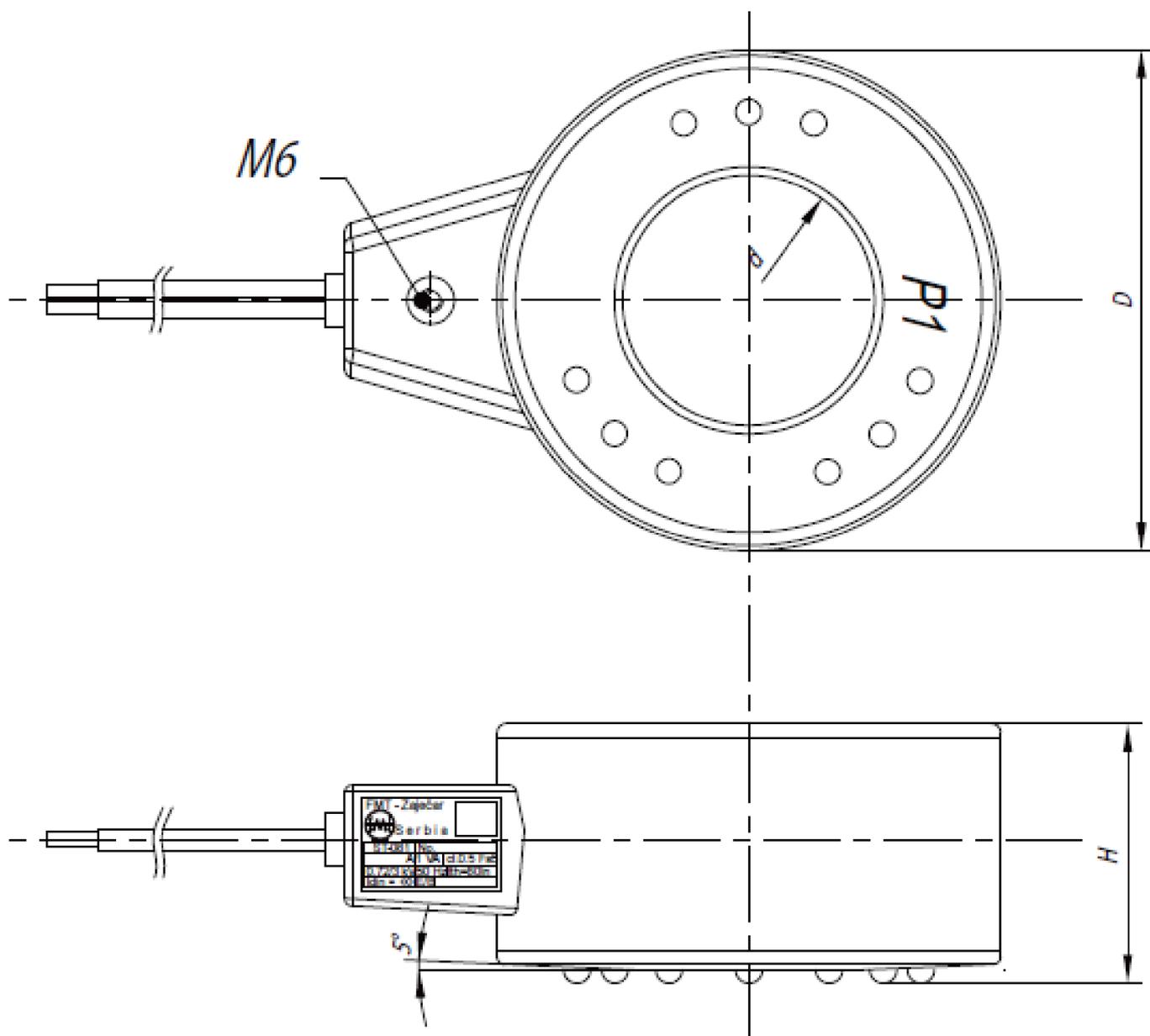
SRPS EN 61869-2

WARRANTY

FMT Zajecar provides twenty-four (24) months warranty on purchased low-voltage current transformer ST081sm starting from the day of commissioning. This warranty shall not be longer than thirty (30) months from the day of the delivery. FMT Zajecar is not responsible for faults and damages (which will void the warranty) resulting from

- incorrect transportation of transformers after the customer has received transformers
- incorrect storage, installation and operation of transformers
- inappropriate selection of transformers for specific electric systems.

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PROCEEDING WITH USED PRODUCT

Low-voltage transformers ST081sm do not constitute a hazard to the environment considering the raw material and the technology used. All used or faulty transformers must be dismantled, segregated and recycled or disposed by appropriate companies.

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Technical details	ST-081SM - 73	ST-081SM - 53
Rated voltage	0.72	0.72
Rated power-frequency withstand voltage, 1 min (RMS)	3 KV	3 KV
Rated frequency	50/60 Hz	50/60 Hz
Rated primary current (A)	500; 600 and 1000	150; 250 and 300
Internal opening (mm)	73	53
Rated secondary current (A)	5	5
Rated power (VA)	1	1
Accuracy class	0.5 and 1	0.5 and 1
Safety factor	5; 10	5; 10
Rated short time thermal current	80 x In	80 x In
Rated dynamic current	Idyn is practically unlimited	Idyn is practically unlimited
Rated continuous thermal current	Ith=1.2 x In	Ith=1.2 x In
Insulation class	E/B	E/B
Type of basic insulation	Epoxy resin	Epoxy resin
Normative references	IEC 60 044-1, SRPS EN 61869-1, SRPS EN 61869-2	