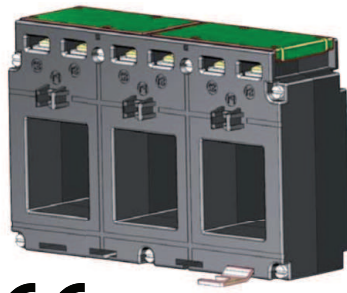


LCTP - 3-PHASE BUSBAR SERIES



INPUT:

100 A
...
500 A

OUTPUT:

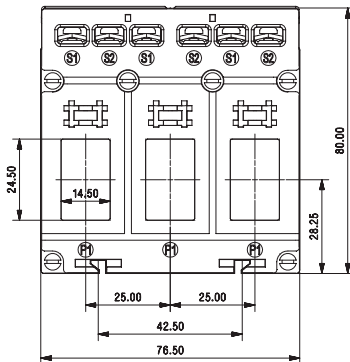
5 A

1 A

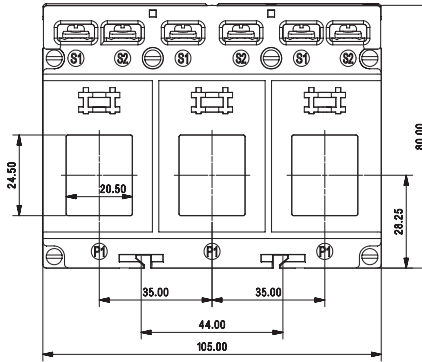
	LCTP 75/15 (60)	LCTP 105/21 (40)	LCTP 140/31 (40)
Busbar	14 x 24 mm	20 x 24 mm	31 x 36 mm
Depth	60 mm	40 mm	40 mm
Width	76.5 mm	105 mm	140 mm
Primary current	100...160 A	100...250 A	250...500 A
Secondary current	5 A; 1 A		
Accuracy class	0.5; 1		

DIMENSIONS

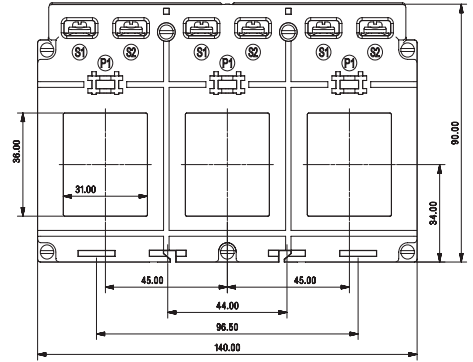
LCTP 75/15 (60)



LCTP 105/21 (40)



LCTP 140/31 (40)



ORDERING CODES

		LCTP 75/15 (60)		LCTP 105/21 (40)		LCTP 140/31 (40)	
Transformer type							
Accuracy class		0.5	1	0.5	1	0.5	1
Code		5	1	5	1	5	1
Code	Primary current	Transformer burden					
0100A	100 A	-	1 VA	-	1 VA	-	-
0125A	125 A	-	1.5 VA	-	1.5 VA	-	-
0150A	150 A	1.5 VA	1.5 VA	-	1.5 VA	-	-
0160A	160 A	1.5 VA	1.5 VA	1.5 VA	1.5 VA	-	-
0200A	200 A	-	-	1.5 VA	1.5 VA	-	-
0250A	250 A	-	-	1.5 VA	1.5 VA	1.5 VA	1.5 VA
0300A	300 A	-	-	-	-	2.5 VA	2.5 VA
0400A	400 A	-	-	-	-	2.5 VA	2.5 VA
0500A	500 A	-	-	-	-	2.5 VA	2.5 VA
0600A	600 A	-	-	-	-	2.5 VA	2.5 VA
0630A	630 A	-	-	-	-	2.5 VA	2.5 VA

Secondary current	Code
x/5A	5
x/1A	1

LCTP 751560						
LCTP 105214						
LCTP 140314						

Ordering example: Order code LCTP 7515600150A55 means the transformer LCTP 75/15(60) 150/5A; Class 0.5; power 1.5VA

ACCESSORIES:

DIN rail mounting base

Order code: LH000-0904-130-124

LCTP - 3-PHASE BUSBAR SERIES

	LCTP 185/27 (45)	LCTP 185/37 (45)
Hole diameter	Ø 27 mm	Ø 37 mm
Depth	45 mm	45 mm
Width	185 mm	185 mm
Primary current	100...500 A	300...800 A
Secondary current	5A; 1 A	
Accuracy class	1	

INPUT:

100 A
...
800 A

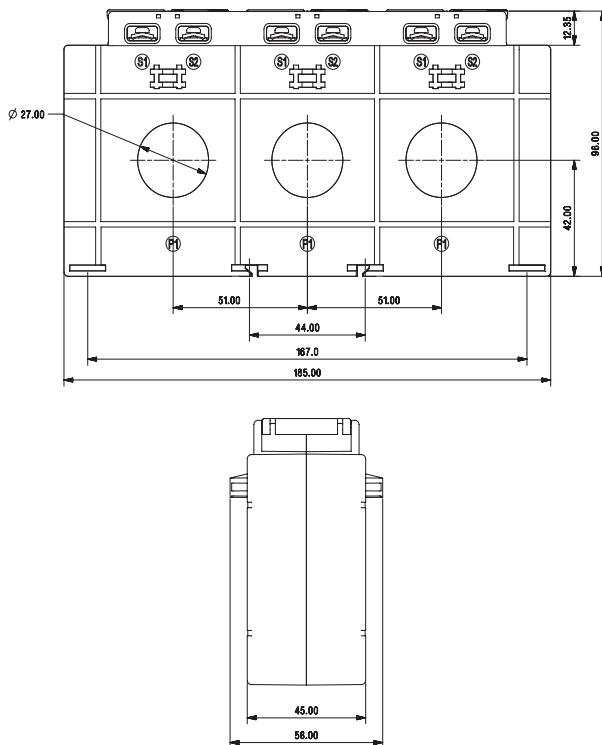
OUTPUT:

5 A 1 A

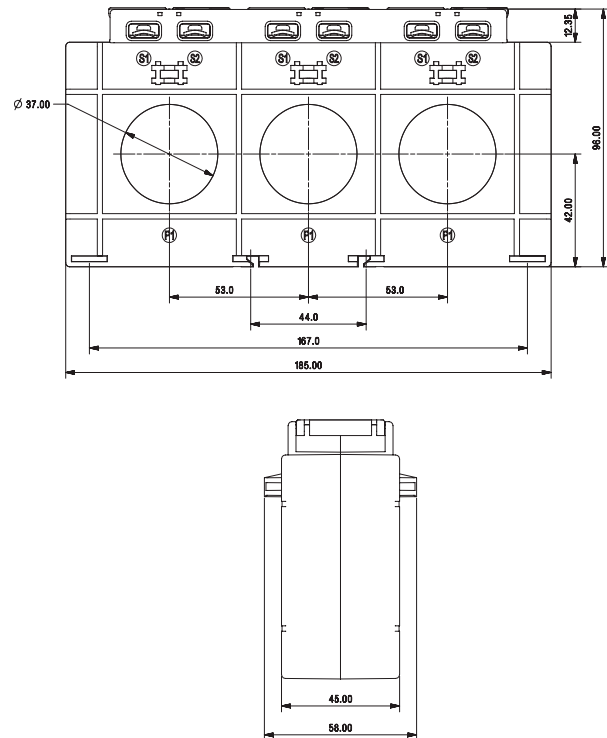


DIMENSIONS

LCTP 185/27 (45)



LCTP 185/37 (45)



ORDERING CODES

Transformer type		LCTP 185/27 (45)	LCTP 185/37 (45)
Accuracy class		1	1
Code		1	1
Code	Primary current	Transformer burden	
0100A	100 A	1.5 VA	-
0150A	150 A	1.5 VA	-
0200A	200 A	2.5 VA	-
0250A	250 A	2.5 VA	-
0300A	300 A	5 VA	2.5 VA
0400A	400 A	5 VA	5 VA
0500A	500 A	5 VA	5 VA
0600A	600 A	-	5 VA
0800A	800 A	-	5 VA

Secondary current	Code
x/5A	5
x/1A	1

LCTP 185274							
LCTP 185374							

Ordering example: Order code LCTP 1852740150A51 means the transformer LCTP 185/27(45) 150/5A; Class 1; power 1.5VA

ACCESSORIES:

DIN rail mounting base

Order code: LH000-0904-130-124

GENERAL OVERVIEW OF CURRENT TRANSFORMERS

Power requirements for measuring apparatus and relays:

- Analog moving-iron meters 0.7 – 1.5 VA
- Rectifier current meters 0.001 – 0.250 VA
- Multi-range current meters 0.005 – 5.000 VA
- Current recorders 0.300-9.000 VA
- Bimetallic ammeters 2.5 – 3.0 VA
- Power meter 0.2 – 5.0 VA
- Power factor meter 2.0 – 6.0 VA
- Meters 0.4 – 1.0 VA
- Relays 0.2 – 6.0 VA
- Power transducers 0.5 VA
- Energy meters 2.5 VA

Internal losses of copper wiring:

$$P = \frac{I^2 \times 2 L}{q_{CU} \times 56} \text{ [VA]}$$

Where:

I – Secondary nominal current,

L – Distance in [m],

q_{CU} – wire cross-section in [mm²].

CONNECTION DIAGRAMM OF CURRENT TRANSFORMERS

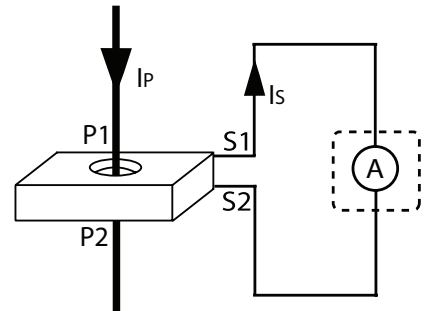


Table for values appertaining to 5 A

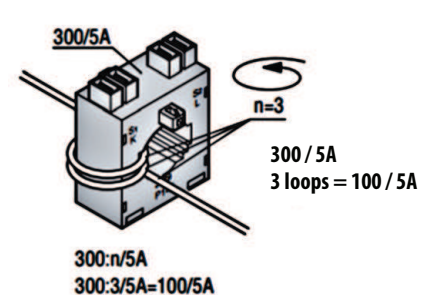
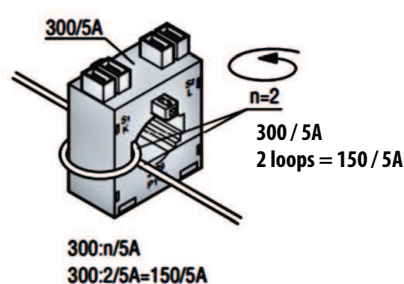
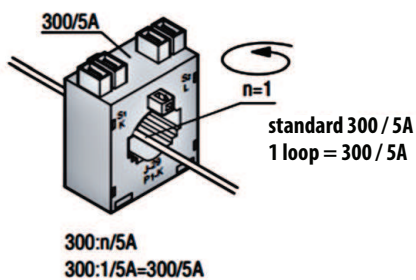
q _{CU}	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m
2.5 mm ²	0.36	0.71	1.07	1.43	1.78	2.14	2.50	2.86	3.21	3.57
4.0 mm ²	0.22	0.45	0.67	0.89	1.12	1.34	1.56	1.79	2.01	2.24
6.0 mm ²	0.15	0.30	0.45	0.60	0.74	0.89	1.04	1.19	1.34	1.49
10.0 mm ²	0.09	0.18	0.27	0.36	0.44	0.54	0.63	0.71	0.80	0.89

Table for values appertaining to 1 A

q _{CU}	10 m	20 m	30 m	40 m	50 m	60 m	70 m	80 m	90 m	100 m
1.0 mm ²	0.36	0.71	1.07	1.43	1.78	2.14	2.50	2.86	3.21	3.57
2.5 mm ²	0.14	0.29	0.43	0.57	0.72	0.86	1.00	1.14	1.29	1.43
4.0 mm ²	0.09	0.18	0.27	0.36	0.45	0.54	0.63	0.71	0.80	0.89
6.0 mm ²	0.06	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54	0.60
10.0 mm ²	0.04	0.07	0.11	0.14	0.18	0.21	0.25	0.29	0.32	0.36

Reducing the transformer ratio.

An example of measuring currents smaller than the rated current of the transformer.



GENERAL OVERVIEW OF CURRENT TRANSFORMERS

CURRENT TRANSFORMER is used for measurement of electric alternating currents. When current in a circuit (primary current) is too high to directly apply to measuring instruments, a current transformer produces a reduced current (secondary current) accurately proportional to the current in the circuit, which can be conveniently connected to measuring and recording instruments. A current transformer also isolates the measuring instruments from what may be very high voltage in the monitored circuit. Relationship between primary and secondary currents is called **rated transformation ratio**.

$$I_1 = I_2 \cdot \frac{N_2}{N_1}$$

where: I_1 - primary current, I_2 - secondary current, N_1 - number of turns of primary winding, N_2 - number of turns of secondary winding, N_2/N_1 - rated transformation ratio
Current transformers are used mainly in such a way that the cable from the measured shock or bus current passes through the main hole transformer, which is equivalent to one coil primary winding. In this case, the above equation simplifies to:

$$I_1 = I_2 \cdot N_2$$

The task is to reduce the transformer output current for currents of over 120% of measurement range, to protect against destruction of measuring devices connected to the transformer in case of surges or failures in the primary circuit.

FEATURES:

- Wide range of accuracy classes: 0.2S, 0.2, 0.5S, 0.5, 1; 3
- Wide range of supported primary currents, the dimensions of rails, the length of casing and hole diameters.
- Multiple mounting methods, including wall mounting, DIN rail 35mm, the conductor, a current bar.
- Shields designed to seal connections.

GENERAL SPECIFICATION

Applicable standard:	IEC 61869-1/2
Case:	10% glass filled polycarbonate, flame retardant grades classified UL 94V-0 or housing made of epoxy resin (LRC series only)
Connection:	Two connection on each side. M4 screws with self lifting clamp strap.
Insulation class	E (120°C max)
Maximum system voltage:	0.72 kV
Test voltage:	4kV, 1 min, 50Hz 3kV, 1 min, 50Hz (for LCTB 50/xx(30), LCTB 50xx(50))
Operating frequency:	50/60 Hz
Rated primary rating:	1 A ... 7500 A
Rated secondary output:	5 A or 1 A
Rated burden:	1, 1.25, 1.5, 2.5, 3.75, 5, 7.5, 10, 12.5, 15, 20, 30, 45, 60, 100 VA
Accuracy class:	0.2, 0.2S, 0.5S – for laboratory and power measurement 0.5 – for accurate measuring 1; 3 – for general measurement, for analog meters
Ambient temperature:	-25°C ... +40°C
Operating temperature:	-10°C ... +55°C
Storage temperature:	-50°C ... +80°C
Rated continuous thermal current (I_{cth}):	1, 2 x I_n
Thermal short circuit current (I_{th}):	40 x I_n for wound type 60 x I_n for bus bar type
Dynamic short circuit current (I_{dyn}):	2.5 x I_{th}
Instrument security factor (FS):	2.5, 5, 10

FEATURES:

720 V	Class
	0.2S 0.2
	0.5S 0.5
	1 3

OUTPUTS:

5 A	1 A
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DEMAND FOR POWER MEASURING DEVICES:

CT users expect these devices fulfill two basic conditions:

- a high degree of accuracy in the nominal current,
- security functions with overloads.

In order to fulfill these stipulations it is necessary for the power of a current transformer offered to fully achieve the actual power requirements of the measurement setup. In ascertaining the actual power requirements, consideration is to be made not only of the loss of power of the appliances to be connected up, but also the losses incurred by the instrument leads.