

**Single-phase CT current transformers**

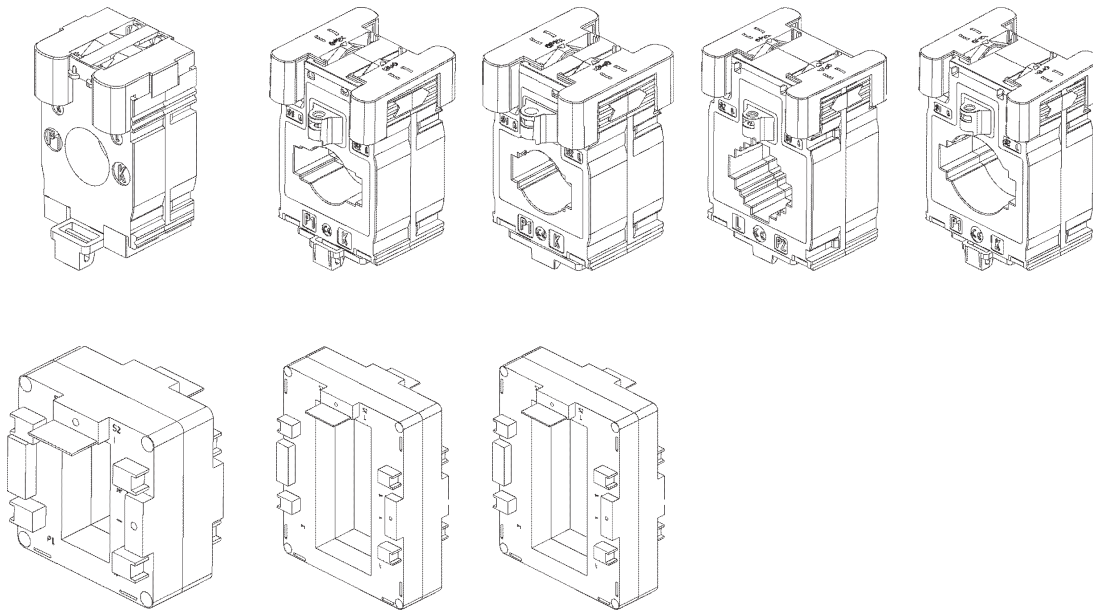
Cat. Nos :

F8TB50/75/100/125/160/200/250 - F8TC250

F8TD400/600 - F8TE250/300/400/600 - F8TF800/1000

F8TG1000 - F8TJ1600/2000/3200

F8TK1600/2000/2500/3200/4000



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## 1. DESCRIPTION - USE

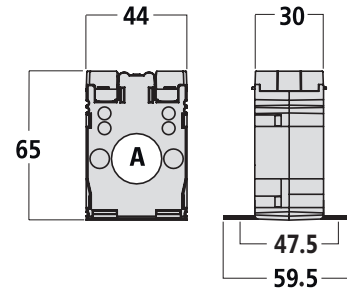
Closed-type single-phase current transformers.  
 Used with ammeters, electricity meters or measurement control units.  
 For mounting on copper or aluminium cables or busbars.  
 Provide a 5 A current at the secondary, proportional to the primary current.  
 For fixing on a plate, on EN 60715 symmetrical rail or busbar.  
 Secondary connected by terminals or lugs.  
 Accuracy class 0.5 - 1 - 3

## 2. RANGE

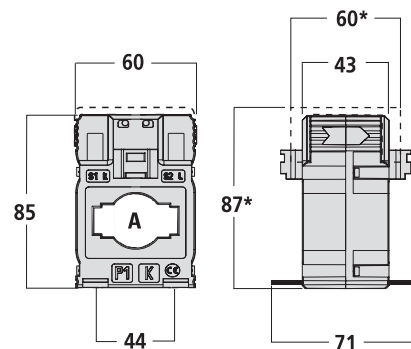
Cat. Nos.	Rating	Equivalence to old Cat. Nos.
F8TB50	50	F8/50
F8TB75	75	-
F8TB100	100	-
F8TB125	125	-
F8TB160	160	-
F8TB200	200	F8/200
F8TB250	250	F8/250A
F8TC250	250	-
F8TD400	400	F8/400A
F8TD600	600	F8/600A
F8TE250	250	F8/250B
F8TE300	300	F8/300B
F8TE400	400	F8/400B
F8TE600	600	F8/600B
F8TF800	800	F8/800
F8TF1000	1000	F8/1000A
F8TG1000	1000	F8/1000B
F8TJ1600	1600	-
F8TJ2000	2000	-
F8TJ3200	3200	-
F8TK1600	1600	F8/1600
F8TK2000	2000	F8/2000
F8TK2500	2500	F8/2500
F8TK3200	3200	F8/3200
F8TK4000	4000	F8/4000

## 3. OVERALL DIMENSIONS

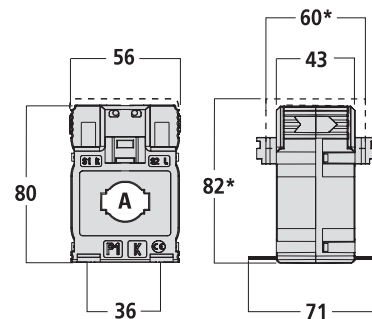
Cat. Nos. F8TB50/75/100/125/160/200/250



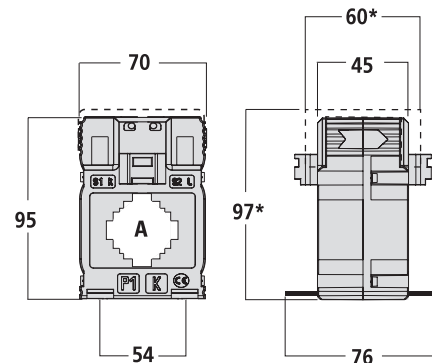
Cat. Nos. F8TC250



Cat. Nos. F8TD400/600



Cat. Nos. F8TE250/300/400/600

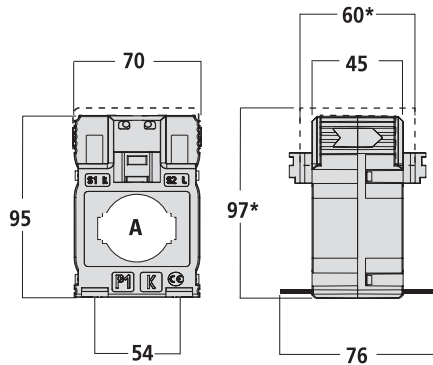


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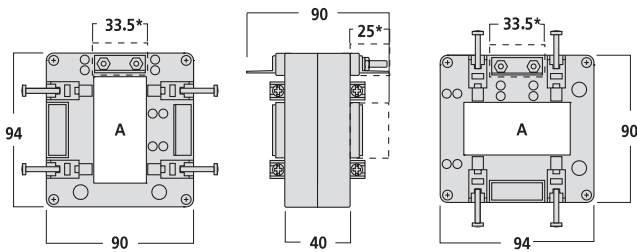
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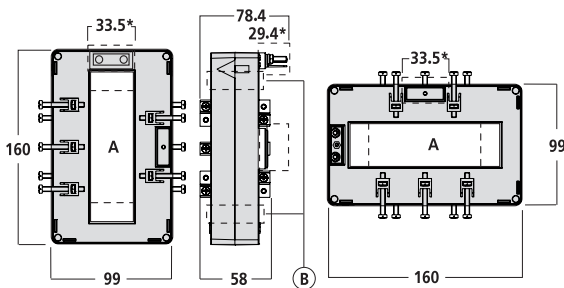
## Cat. Nos. F8TF800/1000



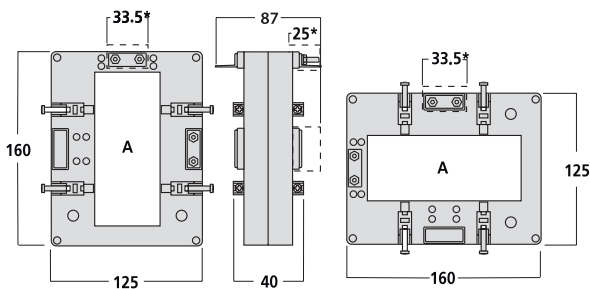
## Cat. Nos. F8TG1000



## Cat. Nos. F8TJ1600/2000/3200



## Cat. Nos. F8TK1600/2000/2500/3200/4000

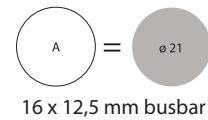


## 4. PREPARATION - CONNECTION

### 4.1 Conductor dimensions

The current transformer rating is selected according to the conductor dimensions, but also according to the maximum prospective current in the circuit to be measured. In order to minimise measurement errors, the rating must be selected as close as possible to this value. CTs cannot be used with a DC supply.

#### Cat. Nos. F8TB50/75/100/125/160/200/250 for cable and busbar :



#### Cat. Nos. F8TC250 for cable and busbar :



#### Cat. Nos. F8TD400/600 for cable and busbar :



#### Cat. Nos. F8TE250/300/400/600 for cable and busbar :



#### Cat. Nos. F8TF800/1000 for cable and busbar :

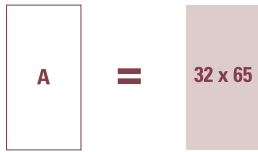


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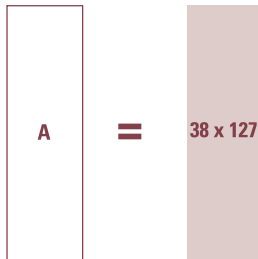
Cat. Nos :

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 F8TG1000 - F8TJ1600/2000/3200  
 F8TK1600/2000/2500/3200/4000

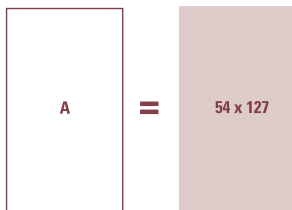
Cat. Nos. F8TG1000 for busbar :



Cat. Nos. F8TJ1600/2000/3200 for busbar :



Cat. Nos. F8TK1600/2000/2500/3200/4000 for busbar :

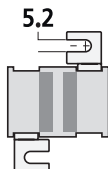


## 4.2 Fixing type

Current transformers are available with several types of fixing. CTs taking cables can be clipped onto DIN rails. Others, which take busbars, should be fixed in place by tightening the dedicated screw. They can also be fixed on a plate using the fixing points on the bottom.

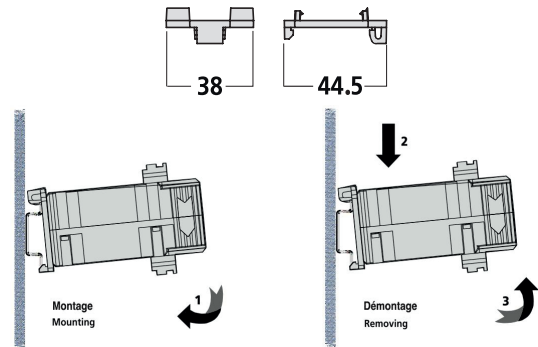
**Fixing with screws supplied for Cat. Nos. :**

F8TB50/75/100/125/160/200/250 - F8TC250 - F8TD400/600 - F8TE250/300/400/600 - F8TF800/1000



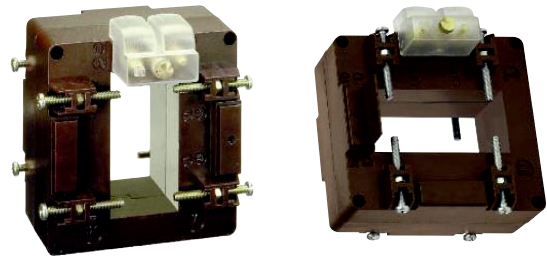
**Fixing on EN 60715 rail (plate supplied) for Cat. Nos. :**

F8TB50/75/100/125/160/200/250 - F8TC250 - F8TD400/600 - F8TE250/300/400/600 - F8TF800/1000



**Fixing on vertical or horizontal busbar for Cat. Nos. :**

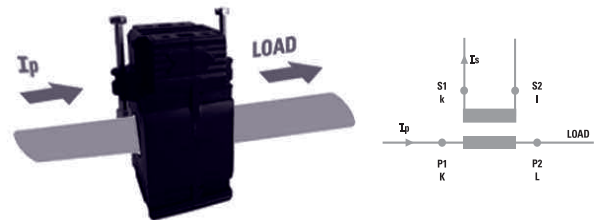
F8TG1000 - F8TJ1600/2000/3200 - F8TK1600/2000/2500/3200/4000



## 4.3 Connection diagram

The secondary terminals (S1 and S2) should be connected to the corresponding inputs on the measuring device (meter or control unit). The value sent to the meter or measurement control unit depends on the direction of mounting on the busbar or cable. To avoid errors, it is essential to make sure that the CT is in the right position. The current flow must enter at P1 (coming from the source) and exit at P2 (going towards the load).

**Cat. Nos. F8TB50/75/100/125/160/200/250 - F8TC250 - F8TD400/600 - F8TE250/300/400/600 - F8TF800/1000**

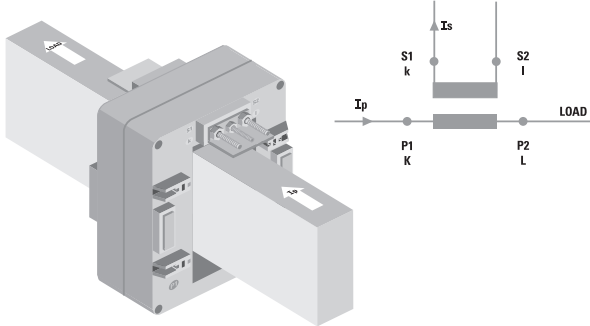


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**F8TD400/600 - F8TE250/300/400/600 - F8TF800/1000**  
**F8TG1000 - F8TJ1600/2000/3200**  
**F8TK1600/2000/2500/3200/4000**

Cat. Nos. **F8TG600/800/1000 - F8TH1250 - F8TJ1600/2000/3200 - F8TK1600/2000/2500/3200/4000**



### 5. GENERAL CHARACTERISTICS

#### 5.1 Technical characteristics

Protection class (EN 60529) :

- Case : IP20
- Terminals : IP00 (IP20 with sealable terminal shield)

96 hours salt spray resistance (red rust)

Rated frequency : 50 Hz

Operating frequency : 47...63 Hz

Continuous rated thermal current in accordance with standard EN 60044-1, EN 61869-1 and EN 61869-2

Rated thermal short-circuit current :  $I_{th} < 60 I_n$

Rated thermal assigned current : 100%

Rated dynamic current :  $I_{dyn} = 2,5 I_{th}$

Safety factor (SF) :  $\leq 5$

Rated secondary current :  $I_{sn} = 5 A$

Rated burden : 1...50 VA (see table 1)

Accuracy class : 0,5 - 1 - 3 (see table 1)

Maximum dissipated power :

F8TB50/75//100/125/160/200/250 :  $\leq 3 W$

F8TC250 :  $\leq 11,5 W$

F8TD400/600 :  $\leq 7 W$

F8TE250/300/400/600 :  $\leq 9 W$

F8TF800/1000 :  $\leq 10,5 W$

F8TG1000 :  $\leq 20 W$

F8TJ1600/2000/3200-F8TK1600/2000/2500/3200/4000 : 23 W

Table 1

Cat. Nos.	Rating	CI 0.5 / VA	CI 1 / VA	CI 3 / VA
F8TB50	50/5A	-	1.3	1.5
F8TB75	75/5A	-	1.5	2.5
F8TB100	100/5A	2	2.5	3.5
F8TB125	125/5A	2.5	3.5	4
F8TB160	160/5A	3	4	5
F8TB200	200/5A	4	5.5	6
F8TB250	250/5A	5	6	7
F8TC250	250/5A	3	4	-
F8TD400	400/5A	10	12	-
F8TD600	600/5A	15	20	-
F8TE250	250/5A	3	5	-
F8TE300	300/5A	5	8	-
F8TE400	400/5A	8	10	-
F8TE600	600/5A	12	15	-
F8TF800	800/5A	8	12	-
F8TF1000	1000/5A	10	12	-
F8TG1000	1000/5A	15	20	-
F8TJ1600	1600/5A	10	15	-
F8TJ2000	2000/5A	15	20	-
F8TJ3200	3200/5A	25	30	-
F8TK1600	1600/5A	20	30	-
F8TK2000	2000/5A	25	50	-
F8TK2500	2500/5A	30	50	-
F8TK3200	3200/5A	30	50	-
F8TK4000	4000/5A	30	50	-

**Cat. Nos. F8TB50/75/100/125/160/200/250**

Primary : conducting cable

Max. tightening torque for the conducting primary busbar fixing screws : 0,2 Nm

Secondary : screw terminal block, max. 2 separate 2,5 mm<sup>2</sup> wires

**Cat. Nos. F8TC250 - F8TD400/600 - F8TE250/300/400/600 - F8TF800/1000**

Primary : conducting busbar/cable

Busbar fixing : screws, with insulated terminals

Recommended tightening torque : 0,2 Nm

Secondary : 4 screws terminal blocks + 2 faston connectors

Faston connectors : 4,8 x 0,8 mm

Terminal block : max. cable cross-section 6 mm<sup>2</sup>

Recommended tightening torque : 1 Nm

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### Cat. Nos :

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**F8TD400/600 - F8TE250/300/400/600 - F8TF800/1000**  
**F8TG1000 - F8TJ1600/2000/3200**  
**F8TK1600/2000/2500/3200/4000**

### Cat. Nos. F8TG1000 - F8TJ1600/2000/3200 - F8TK1600/2000/2500/3200/4000

Primary : conducting busbar  
 Max. tightening torque for the conducting primary busbar fixing screws : 0,2 Nm  
 Secondary : connected by lugs, tightened with M4 nut

### Weight

F8TB50/75/100/125/160/200/250 : 180 g  
 F8TC250 : 260 g  
 F8TD400/600 : 300 g  
 F8TE250/300/400/600 : 320 g  
 F8TF800/1000 : 420 g  
 F8TG1000 : 750 g  
 F8TK1600/2000/2500/3200/4000 : 1300 g  
 F8TJ1600/2000/3200 : 1500 g

### 5.2 Insulation characteristics

Air-insulated dry-type transformer  
 Maximum insulation voltage :  $U_m = 0,72$  kV rms value  
 rated insulation voltage level : 3 kV rms value 50 Hz/1 min  
 Insulation class (EN 60044, EN 61869-1 et 2) : B

### 5.3 Usage conditions

Non-exposed installation (EN 60044, EN 61869-1 et 2)  
 Reference temperature :  $23^{\circ}\text{C} \pm 1^{\circ}\text{C}$   
 Usage temperature :  $-25^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  **except for F8TJ1600/2000/3200 - F8TK1600/2000/2500/3200/4000** :  $-25^{\circ}\text{C}$  to  $40^{\circ}\text{C}$   
 Daily average temperature :  $\leq 30^{\circ}\text{C}$   
 Storage temperature :  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$   
 Relative humidity :  $\leq 85\%$   
 Suitable for use in tropical climates

### 5.4 Limits of current error and phase displacement (EN60044, EN 61869-1 et 2)

For **classes 0,5 - 1** the current error and phase displacement at rated frequency shall not exceed the values given in table when the secondary burden is any value **from 25% to 100% of the rated burden**.

For **class 3** the current error and phase displacement at rated frequency shall not exceed the values given in table when the secondary burden is any value **from 50% to 100% of the rated burden**.

Table 2

Accuracy class	% current error (ratio) ( $\pm$ ) as a percentage of the rated current stated below				
	5	20	50	100	120
0.5	1.5	0.75	-	0.5	0.5
1	3.0	1.5	-	1.0	1.0
3	-	-	3	-	3

Accuracy class	$\pm$ Phase displacement at percentage of rated current shown below									
	Minutes					Centiradians				
	5	20	50	100	120	5	20	50	100	120
0.5	90	45	-	30	30	2.7	1.35	-	0.9	0.9
1	180	90	-	60	60	5.4	2.7	-	1.8	1.8
3	-	-	-	-	-	-	-	-	-	-

### 5.5 Materials

Cases made of self-extinguishing polycarbonate, V0 classification according to UL 94

### Cat. Nos. F8TB50/75/100/125/160/200/250

Core : steel  
 Flange : PA  
 Winding : copper wire  
 Screws : brass  
 Half-shells : PC  
 Terminal shield : PC  
 Rail-fixing plate : PC  
 Lug for screw mounting : iron

### Cat. Nos. F8TC250 - F8TD400/600 - F8TE250/300/400/600 - F8TF800/1000

Core : steel  
 Flange : PA  
 Winding : copper wire  
 Terminals (blade + cage) : iron  
 Cage structure : PC  
 Half-shells : PC  
 Nut : iron  
 Screws : iron  
 Ferrule for clamping onto busbar : PA  
 Rail-fixing plate : PC  
 Lug for screw mounting : iron

### Cat. Nos. F8TG1000 - F8TJ1600/2000/3200 F8TK1600/2000/2500/3200/4000

Core : steel  
 Flange : PA  
 Winding : copper wire  
 Screws : brass and iron  
 Half-shells : PC  
 Washers : iron  
 Nut : brass and iron  
 Tie rod : brass  
 Terminal shield : PC  
 Ferrule for clamping onto busbar : PA  
 Shield : brass

## 6. COMPLIANCE AND APPROVALS

Compliant with the following standards :  
 EN 60044-1  
 EN 61869-1 et EN 61869-2  
 EN 60529

Compliant with the following directives :  
 REACH  
 ROHS