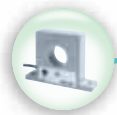




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# Current Transformers & Shunts

## Carlo Gavazzi



# Current Transformers

## Current Transformers for monitoring relays

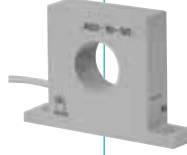
### Types

MI

MP

A 82

E 82



Dimensions (mm) H x W x D

45 x 52 x 16 [5/20]  
67.5 x 95 x 20  
[100/500]

45 x 120 x 16 [5/20]  
114 x 150 x 23  
[100/500]

67.5 x 95 x 20

55.4 x 22.5 x 47.4

Function

1-phase AC.  
Output voltage.  
Cable hole.

3-phase AC.  
Output voltage.  
Cable hole.

1-phase AC.  
Output 0/4-20 mA DC.  
Cable hole.  
Led indication.

1-phase AC.  
Output 4-20 mA DC.  
Cable hole.  
DIN-rail mounting.

### Input Specifications

Input current

0.5 - 5 AAC [5]  
2 - 20 AAC [20]  
10 - 100 AAC [100]  
50 - 500 AAC [500]

0.5 - 5 AAC [5]  
2 - 20 AAC [20]  
10 - 100 AAC [100]  
50 - 500 AAC [500]

0 - 25 AAC [25]  
0 - 50 AAC [50]  
0 - 100 AAC [100]  
0 - 250 AAC [250]  
0 - 500 AAC [500]

3 input ranges per unit.  
[25]: 0 - 5,  
0 - 10,  
0 - 25 AAC  
[50]: 0 - 20,  
0 - 30,  
0 - 50 AAC

Max. current continuously

20 AAC [5]  
50 AAC [20]  
250 AAC [100]  
750 AAC [500]

20 AAC [5]  
50 AAC [20]  
250 AAC [100]  
750 AAC [500]

30 AAC [25]  
60 AAC [50]  
120 AAC [100]  
300 AAC [250]  
600 AAC [500]

50 AAC [25]  
100 AAC [50]

Dielectric voltage

6 kV CA<sub>rms</sub>

6 kV CA<sub>rms</sub>

6 kV CA<sub>rms</sub>

### Output Specifications

Output value

0.4 - 4 Vp  
The output voltage is proportional to the input current.

0.4 - 4 Vp  
The output voltage is proportional to the highest current value in the 3 conductors which are drawn through the holes of the current metering transformer.

A82 - 10: 0-20 mA DC  
A82 - 20: 4-20 mA DC  
The output current is proportional to the input current.

4 - 20 mA DC  
The output current is proportional to the input current.

Output tolerance

+ / - 5% @I<sub>n</sub>

+ / - 5% @I<sub>n</sub>

+ / - 2% @50Hz

+ / - 2% @50Hz

Rated insulation voltage (cable)

250 VAC<sub>rms</sub>

250 VAC<sub>rms</sub>

250 VAC<sub>rms</sub>

### General Specifications

Cable hole diameter

10.5 mm [5/20]  
27 mm [100/500]

3 x 12 mm [5/20]  
3 x 27 mm [100/500]

27 mm

12 mm

Connection cable

2 m PVC 2 x 0.5 mm<sup>2</sup>

2 m PVC 2 x 0.5 mm<sup>2</sup>

A82-10: 2m, 2x0.25 m<sup>2</sup>  
A82-20: 2m, 2x0.25 m<sup>2</sup>  
-20°C to +50°C

Screw terminal  
2 x 1.5 mm<sup>2</sup>  
-20°C to +50°C

Operating temperature

-20°C to +60°C

-20°C to +60°C

### References

MI 5  
MI 20  
MI 100  
MI 500

MP 3005  
MP 3020  
MP 3100  
MP 3500

A 82-10 25  
A 82-10 50  
A 82-10 100  
A 82-10 250  
A 82-10 500  
A 82-20 25  
A 82-20 50  
A 82-20 100  
A 82-20 250  
A 82-20 500

E 82-20 25  
E 82-20 50





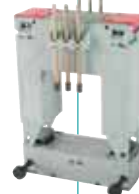
## Split Core Current Transformers 1-Phase

Types

**SCT74/30**

**SCT104/50**

**SCT140/80**



Dimensions  
(mm) H x W x D

100 x 61 x 74

128 x 56 x 104

155 x 53 x 140

### Input Specifications

Split core current transformer  
1-phase AC

Split core current transformer  
1-phase AC

Split core current transformer  
1-phase AC

Operating frequency

50 to 60 Hz

50 to 60 Hz

50 to 60 Hz

Max. system voltage

0.72 kV

0.72 kV

0.72 kV

Rated insulation level

4 kV<sub>RMS</sub>, 50Hz, 1min

4 kV<sub>RMS</sub>, 50Hz, 1min

4 kV<sub>RMS</sub>, 50Hz, 1min

Security factor

5, 10

5, 10

5, 10

### Output Specifications

Secondary current

5 A standard  
(1 A on request)

5 A standard  
(1 A on request)

5 A standard  
(1 A on request)

### General Specifications

Class

1/ 3/ 0.5 (on request)

1/ 3/ 0.5 (on request)

1/ 3/ 0.5 (on request)

Bus-bar size (mm)

31 x 26mm

51 x 51mm

81 x 51mm

Standards

BS3938, EN60044-1, DIN42600

BS3938, EN60044-1, DIN42600

BS3938, EN60044-1, DIN42600

### Primary Current

Burden (VA)

Class	0.5	1	3
100 A	-	-	1.5
125 A	-	1.5	-
150 A	-	-	2.5
200 A	-	1.5	5
250 A	-	1.5	5
300 A	-	1.5	7.5
400 A	1.5	5	10

Burden (VA)

Class	0.5	1	3
150 A	-	-	1.5
200 A	-	1.5	-
250 A	-	1.5	3.75
300 A	-	1.5	5
400 A	1.5	2.5	5
500 A	2.5	5	10
600 A	2.5	5/7.5	15
750 A	3.75	5/7.5	-
800 A	5	5/10	15
1000A	5/10	5/10	10

E.g.: 5/10      5= standard  
10= on request

Burden (VA)

Class	0.5	1	3
400 A	-	-	5
500 A	-	2.5	5
600 A	1.5	3.75	7.5
750 A	2.5	5/7.5	10
800 A	3.75	5/7.5	10
1000A	5	5	20
1200A	5/10	5/10/15	20
1250A	5/10	5/10/15	20
1500A	5/10/15	10/15/20	30
1600A	5/10/15	5/10/15/20	30

E.g.: 5/10      5= standard  
10= on request

### Ordering References

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# Current Transformers and Shunts

## Split Core Current Transformers 1-Phase

Types

SCT166/125

SCT166/165

SCT166/205



Dimensions (mm) H x W x D	248 x 50 x 166	288 x 50 x 166	328 x 50 x 166	
<b>Input Specifications</b>	Split core current transformer 1-phase AC			
Operating frequency	50 to 60 Hz			
Max. system voltage	0.72 kV			
Rated insulation level	4 kV <sub>RMS</sub> , 50Hz, 1min			
Security factor	5, 10			
<b>Output Specifications</b>	5 A standard (1 A on request)			
<b>General Specifications</b>	1/ 3/ 0.5 (on request)			
Class	62 x 127mm			
Bus-bar size (mm)	BS3938, EN60044-1, DIN42600			
Standards	BS3938, EN60044-1, DIN42600			
<b>Primary Current</b>	Burden (VA)			
	Class	0.5	1	3
	500 A	-	2.5	5
	600 A	-	2.5	5
	800 A	1.5	5	10
	1000A	2.5	5/10	15
	1200A	5	5/10/15	20
	1250A	5	5/10/15	20
	1500A	5/10	5/10/15	20
	1600A	5/10	5/10/15	20
	2000A	5/10/15/20	10/15/20/30	-
	2500A	5/10/15/20	5/10/15/30	-
	3000A	5/10/15/20	5/10/15/30	-
	4000A	5/10/15/20	5/10/15/30	-
	5000A	5/10/15/30	5/10/15/30	-
	6000A	5/10/15/30	5/10/15/30	-
	E.g.: 5/10	5= standard	10= on request	

Ordering References

See page 216

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## Current Transformers 1-Phase

Types

**TADK**

**TADK2**

**TAD 2**



Dimensions  
(mm) H x W x D

115.5 x 75 x 44

115.5 x 75 x 44

98.5 x 58 x 44

### Input Specifications

Current transformer  
1-phase AC

Current transformer  
1-phase AC

Current transformer  
1-phase AC

Operating frequency

40 to 60 Hz

40 to 60 Hz

40 to 60 Hz

Max. system voltage

0.72 kV

0.72 kV

0.72 kV

Rated insulation level

3 kV/1 min @ 50 Hz

3 kV/1 min @ 50 Hz

3 kV/1 min @ 50 Hz

Security factor

A5

A5

A5

### Output Specifications

Secondary current

5 A standard  
(1 A on request)

5 A standard  
(1 A on request)

5 A standard  
(1 A on request)

### General Specifications

Class

0.5

0.5

0.5 / 1 / 3

Bus-bar size (mm)

no (wounded primary)

25 x 5 (fixed bar)

20 x 8

Standards

IEC 60185

IEC 60185

IEC 60185

### Primary Current

Accuracy class depending  
on the burden output  
I<sub>2</sub> nominal 1 A / 5 A

Burden (VA)			
Class	0.5	1	3
1 A	10		
5 A	10		
10 A	10		
15 A	10		
25 A	10		
40 A	10		

Burden (VA)			
Class	0.5	1	3
1 A	10		
5 A	10		
10 A	10		
15 A	10		
25 A	10		
40 A	10		
50 A	10		
60 A	10		
80 A	10		
100 A	10		
150 A	10		
200 A	10		
250 A	10		

Burden (VA)			
Class	0.5	1	3
40 A			3
50 A			3
60 A			3
80 A			3
100 A		3	4
150 A	3	4	6
200 A	3	4	6
250 A	5	8	10
300 A	5	8	10

### Ordering References

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# Current Transformers and Shunts

## Current Transformers 1-Phase

### Types

#### TAD 3



#### TAD 4



#### TAD 6



### Dimensions (mm) H x W x D

98.5 x 58 x 44

115.5 x 75 x 44

145 x 105 x 44

### Input Specifications

Current transformer  
1-phase AC

40 to 60 Hz

0.72 kV

3 kV/1 min @ 50 Hz

A5

Current transformer  
1-phase AC

40 to 60 Hz

0.72 kV

3 kV/1 min @ 50 Hz

A5

Current transformer  
1-phase AC

40 to 60 Hz

0.72 kV

3 kV/1 min @ 50 Hz

A5

### Operating frequency

### Max. system voltage

### Rated insulation level

### Security factor

### Output Specifications

### Secondary current

5 A standard  
(1 A on request)

5 A standard  
(1 A on request)

5 A standard  
(1 A on request)

### General Specifications

### Class

0.5 / 1

0.5 / 1

0.5 / 1

### Bus-bar size (mm)

21 x 14 or 31 x 11

32 x 16 or 41 x 11

55 x 22 or 65 x 20

### Standards

IEC 60185

IEC 60185

IEC 60185

### Primary Current

#### Burden (VA)

Class	0.5	1	3
100 A		3	
150 A	3	4	
200 A	3	4	
250 A	5	8	
300 A	5	8	
400 A	6	10	
500 A	6	10	
600 A	6	10	

#### Burden (VA)

Class	0.5	1	3
100 A		3	
150 A		3	
200 A	4		
250 A	6		
300 A	6		
400 A	10		
500 A	10		
600 A	10		
800 A	10		

#### Burden (VA)

Class	0.5	1	3
400 A	6	12	
500 A	6	12	
600 A	10	20	
800 A	10	20	
1000 A	20	40	
1200 A	20	40	
1500 A	30	60	
2000 A	30	60	

### Accuracy class depending

### on the burden output

### I2 nominal 1 A / 5 A

### Ordering References

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## Current Transformers 1-Phase

Types

TAD8



TAD12



DER



Dimensions  
(mm) H x W x D

140 x 120 x 55

183 x 170 x 65

**Input Specifications**

Current transformer  
1-phase AC

Current transformer  
1-phase AC

Shunt for DC current

Operating frequency

40 to 60 Hz

40 to 60 Hz

Continuous current

Max. system voltage

0.72 kV

0.72 kV

Rated insulation level

3 kV/1 min @ 50 Hz

3 kV/1 min @ 50 Hz

Security factor

A5

A5

**Output Specifications**

Secondary current

5 A standard  
(1 A on request)

5 A standard  
(1 A on request)

**General Specifications**

Class

0.5 / 1 / 5 P10

0.5 / 1 / 5 P10

0.5

Bus-bar size (mm)

82 x 32 or 65 x 34

127 x 51 or 102 x 53

Standards

IEC 60185

IEC 60185

DIN 43703

**Primary Current**

Accuracy class depending  
on the burden output  
I2 nominal 1 A / 5 A

Burden (VA)	Class		
	0.5	1	5P10
400 A	4	8	5
500 A	6	12	5
600 A	10	20	5
800 A	15	30	5
1000 A	20	40	5
1200 A	30	50	5
1500 A	40	60	5
2000 A	50	80	5
2500 A	60	100	5

Burden (VA)	Class		
	0.5	1	5P10
800 A	15	30	10
1000 A	20	40	10
1200 A	30	60	10
1500 A	40	80	10
2000 A	50	100	10
2500 A	60	120	10
3000 A	80	160	10
4000 A	100	200	10

Measuring range for  
current 1 to 10000 A  
Secondary: 60 mV  
(150 mV or other  
on request)

**Ordering References**

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