

# CURRENT TRANSFORMERS

## Classic Line - Protective Current transformers

While measurement current transformers are used to go into saturation above the nominal current range (shown in the excess current limiting factor FS) to prevent the increasing of the secondary current in case of system fault (e. g. primary short circuit) and to protect the equipments in the secondary circuit, a protective c.t. is used to have a saturation far away from its nominal current range in order to protect the switchgear etc. by using distance relays, over-current relays etc.

Rated accuracy classes are 5P and 10P. "P" means "protection". The excess current limiting factor (in %) is given behind the precision class. It means e.g. 10P5, if the primary current is five times higher than the nominal current, the negative deviation of the secondary current from the theoretically secondary current calculated by the ratio is not more than 10%.

### Application

Protective current transformers convert an alternating current of high value into a lower, proportional one, in order to protect an installation by means of standard relays of rated currents 5 or 1A.

These current transformers are suitable for indoor use in low-voltage networks. They are built according to UNE-EN and IEC 61869-2.

### Accuracy (according to IEC 61869-2)

CELSA manufactures protective current transformers of accuracy classes 5P and 10P, with an accuracy limit factor of 5 or 10, for the rated outputs indicated in the tables.

### Constructive Characteristics

Cases of self-extinguishing polycarbonate V0 according to UL94. Sealable terminal cover included, made of clear polycarbonate. Double secondary terminals, for short-circuiting the secondary winding before opening the measuring circuit. All are bus type transformers and they include fixing clamps to the primary bar.

### Electrical Data (according to UNE-EN and IEC 61869-2)

Rated secondary current: 5 or 1 A

Frequency range: 50-60 Hz

Highest voltage for equipment: 720 V

Rated insulation level: 3 kV, 50Hz during 1 minute

Rated continuous thermal current: 1,2 times rated current

Rated short-time thermal current ( $I_{th}$ ): 60 times rated current

Rated dynamic current ( $I_{th}$ ): 2,5 times  $I_{th}$

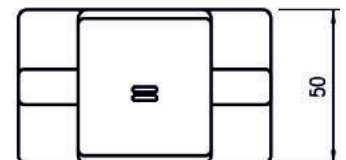
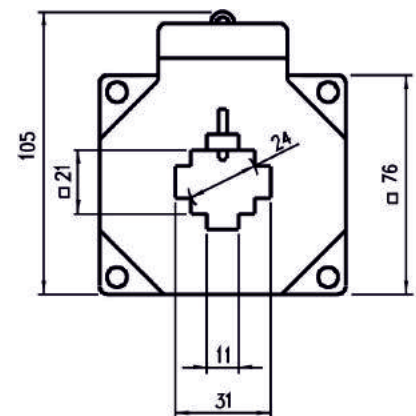
Accuracy limit factor: 5 or 10

Thermal class of insulation, according to IEC-60085: E (120 °C)

### IB-50 Protective current transformers



Round conductor:	Ø 23 mm
Primary bar:	30 x 10 mm



### IB-50 Technical Features, Executions

Primary rated current A	Rated burdens VA (sec. .../5A , .../1A)			
	Class 5P10	Class 10P10	Class 5P5	Class 10P5
75	-	-	1,25	1,25
100	-	-	2,5	2,5
125	1,25	1,25	2,5	2,5
150	1,25	1,25	3,75	3,75
200	1,25	1,25	5	5
250	2,5	2,5	7,5	7,5
300	2,5	3,75	7,5	7,5
400	1,25	1,25	5	5
500	1,25	1,25	5	5
600	1,25	1,25	5	5

Included in delivery: Primary fixing device

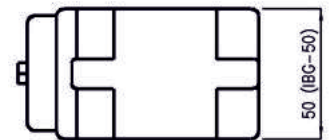
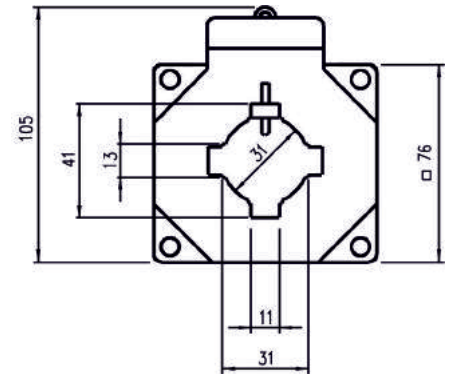
Accessories: Mounting feet / snap on mounting bracket EN 50022-35

# CURRENT TRANSFORMERS

## IBG-50 Protective current transformers



Round conductor:	Ø 30 mm
Primary bar:	40 x 10 mm



### IBG-50 Technical Features, Executions

Primary rated current A	Rated burdens VA (sec. .../5A , .../1A)			
	Class 5P10	Class 10P10	Class 5P5	Class 10P5
150	-	-	2,5	2,5
200	1,25	1,25	2,5	2,5
250	-	-	1,25	1,25
300	-	-	1,25	1,25
400	-	-	2,5	2,5
500	-	-	2,5	3,75
600	-	-	2,5	3,75
750	-	-	3,75	5
800	-	-	-	1,25
1000	-	-	-	1,25

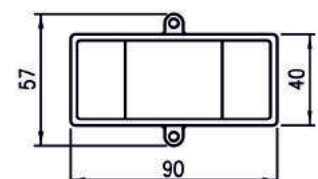
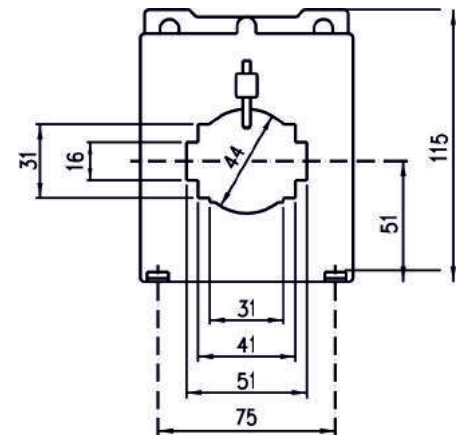
Included in delivery: Primary fixing device

Accessories: Mounting feet / snap on mounting bracket EN 50022-35

## IBR Protective current transformers



Round conductor:	Ø 44 mm
Primary bar:	50 x 15 mm 2 x 40 x 10 mm



### IBR Technical Features, Executions

Primary rated current A	Rated burdens VA (sec. .../5A)		Rated burdens VA (sec. .../1A)	
	Class 5P5	Class 10P5	Class 5P5	Class 10P5
400	1,25	1,25	1,25	1,25
500	1,25	1,25	2,5	2,5
600	2,5	2,5	2,5	2,5
750	2,5	2,5	3,75	3,75
800	2,5	2,5	3,75	3,75
1000	2,5	2,5	5	5
1200	1,25	1,25	3,75	3,75
1500	1,25	1,25	5	5

Included in delivery: Primary fixing device

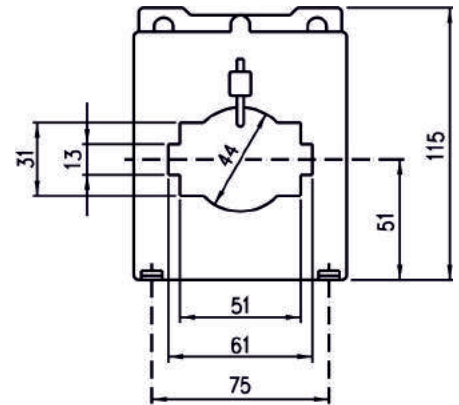
Accessories: Mounting feet / snap on mounting bracket EN 50022-35

# CURRENT TRANSFORMERS

## IBR/1 Protective current transformers



Round conductor:	Ø 44 mm
Primary bar:	60 x 12 mm 2 x 50 x 10 mm

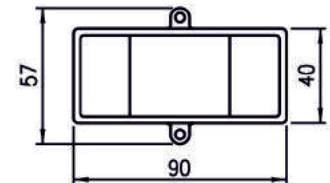


### IBR/1 Technical Features, Executions

Primary rated current A	Rated burdens VA (sec. .../5A)		Rated burdens VA (sec. .../1A)	
	Class 5P5	Class 10P5	Class 5P5	Class 10P5
400	1,25	1,25	1,25	1,25
500	1,25	1,25	2,5	2,5
600	2,5	2,5	2,5	2,5
750	2,5	2,5	3,75	3,75
800	2,5	2,5	3,75	3,75
1000	2,5	2,5	5	5
1200	1,25	1,25	3,75	3,75
1500	1,25	1,25	5	5

Included in delivery: Primary fixing device

Accessories: Mounting feet / snap on mounting bracket EN 50022-35



## IER Protective current transformers

IER



IER/2



Round conductor	
IER	Ø 50 mm
IER/1	Ø 80 mm

Primary bar	
IER	80 x 10 mm 2 x 60 x 10 mm
IER/2	3 x 60 x 10 mm
IER/3	2 x 80 x 10 mm

IER/1



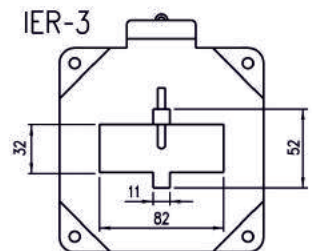
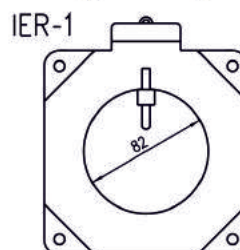
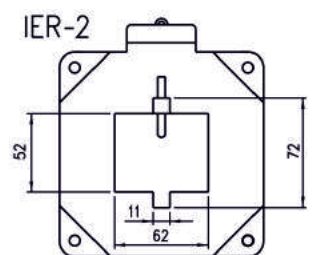
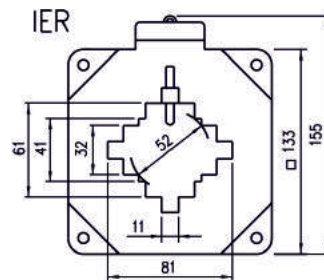
IER/3



### IER-1/-2/-3 Technical Features, Executions

Primary rated current A	Rated burdens VA (sec. .../5A, .../1A)			
	Class 5P10	Class 10P10	Class 5P5	Class 10P5
250	-	1,25	2,5	2,5
300	1,25	1,25	3,75	3,75
400	1,25	1,25	5	5
500	2,5	2,5	7,5	7,5
600	1,25	1,25	5	5
750	2,5	2,5	7,5	7,5
800	1,25	1,25	7,5	7,5
1000	2,5	2,5	10	10
1200	2,5	3,75	10	10
1500	5	5	15	15
1600	5	5	15	15
2000	5	5	20	20

Included in delivery: Primary fixing device (except IER/1)



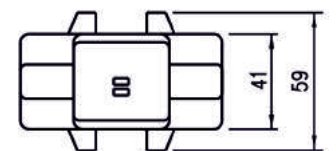
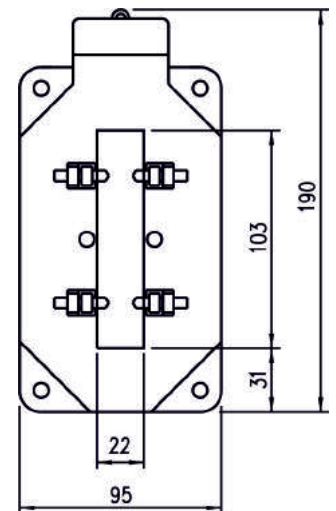
# CURRENT TRANSFORMERS

## IRP Protective current transformers



Primary bar 100 x 20 mm

On request: Secondary terminals on the long side of the current transformer



### IRP Technical Features, Executions

Primary rated current A	Rated burdens VA (sec. .../5A , .../1A)			
	Class 5P10	Class 10P10	Class 5P5	Class 10P5
750	1,25	1,25	7,5	7,5
800	1,25	2,5	7,5	7,5
1000	2,5	2,5	10	10
1200	3,75	3,75	10	10
1500	5	5	15	15
1600	5	5	15	15
2000	5	5	20	20
2500	7,5	7,5	20	20

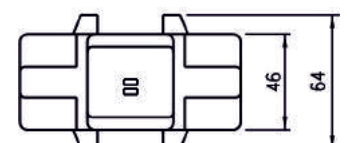
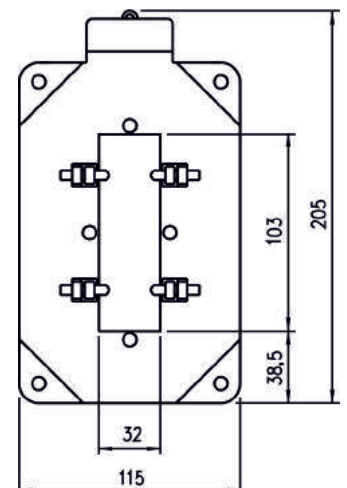
Included in delivery: Primary fixing device

## IRM Protective current transformers



Primary bar 100 x 20 mm

On request: Secondary terminals on the long side of the current transformer



### IRM Technical Features, Executions

Primary rated current A	Rated burdens VA (sec. .../5A , .../1A)			
	Class 5P10	Class 10P10	Class 5P5	Class 10P5
1500	3,75	3,75	15	15
1600	5	5	15	15
2000	5	7,5	20	20
2500	7,5	7,5	20	30
3000	10	10	30	30
4000	10	10	30	45

Included in delivery: Primary fixing device