

TE, *TR* and *TF* current sensors

Current sensors

associated to DIRIS Digiware and DIRIS B-30

new



TE *Solid current sensors*



TR *Split-core current sensors* ***TF*** *Flexible current sensors*

The solution for

- Industry
- Building
- Infrastructure
- Local authority



Strong points

- Plug & Play
- Accuracy as per standard IEC 61557-12
- Suitable for any installation

Services & Technical Assistance

- Technical site audits and solution specification, commissioning, maintenance, training… Our Services & Technical Assistance experts offer you personalised support to ensure success with all your projects.

Conformity to standards

- IEC 61557-12
- ISO 14025
- UL

Function

TE, TR and **TF** current sensor ranges can be connected to DIRIS Digiware and DIRIS B-30 via a rapid RJ12 connection. Various accessories are available to allow the installation of sensors in all panel configurations.

Thanks to a wide measurement range, the TE current sensors cover the full current range from 5 to 1000 A, with only 6 models.

Advantages

Plug & Play

- A rapid RJ12 connection makes wiring easy and reliable and prevents wiring errors. This also allows automatic detection of the sensor type and size/transformation ratio.
- Mounting orientation of current sensors is indifferent.

Accuracy as per standard IEC 61557-12

- Class 0.5 from 2% to 120% of nominal current for the global measurement chain (associated with TE or TF current sensors).
- Class 1 from 2% to 120% of nominal current for the global measurement chain (associated with TR current sensors).

Suitable for any installation

Dimensions of the range allow:

- New installation: a range of solid TE sensors adapted to the pitch of protective devices.
- Existing installations: a range of split-core TR sensors for existing sites.
- Existing space-constrained installations with high-intensity currents: a range of flexible TF current sensors (Rogowski).

Selection guide

Current sensors	TE Solid current sensors	TR Split-core current sensors	TF Flexible current sensors
Nominal current range (A)	5 … 1000	25 … 600	150 … 6000

Functions

TE range

- Solid current sensors.
- Plug & Play RJ12 connection.
- High accuracy over the whole operating range.
- 6 models with ratings from 5 to 1000 A that are adapted to the pitch of protective devices (18/25/35/45/55 mm).
- A 5A/RJ12 adapter for use with TC 5A current transformers in the DIRIS Digiware and DIRIS B-30 ranges.
- Accessories for back-plate, DIN-rail, cable or bar mounting.

TR range

- Split-core current sensors.
- Plug & Play RJ12 connection.
- High accuracy over the whole operating range.
- 4 models with ratings from 25 to 600 A.
- Apertures from 10 to 36 mm.

TF range

- Split-core current sensors.
- Plug & Play RJ12 connection.
- High accuracy over the whole operating range.
- 3 models with different ratings (from 150 to 6000 A).
- Apertures from 55 to 300 mm.

Mounting

TE range

Linear mounting (circuit breaker pitch)
TE-25 / TE-35 / TE-45 / TE-55

diris-t_005_a_1_cat



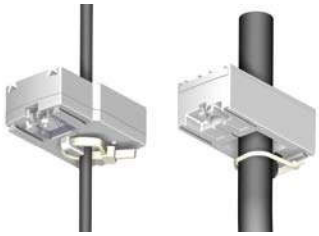
Staggered mounting
TE-18 / TE-35 / TE-45 / TE-55

diris-t_005_a_1_cat



Cable mounting

diris-t_035_a_1_cat



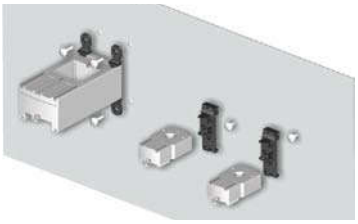
DIN-rail mounting

diris-t_033_a_1_cat



Back-plate mounting

diris-t_034_a_1_cat



Bar mounting

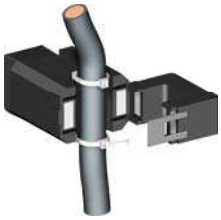
diris-t_036_a_1_cat



TR range

Cable mounting

diris-t_037_a_1_cat



diris-t_038_a_1_cat



TF range

Cable mounting

diris-t_039_a_1_cat



Bar mounting

diris-t_040_a_1_cat

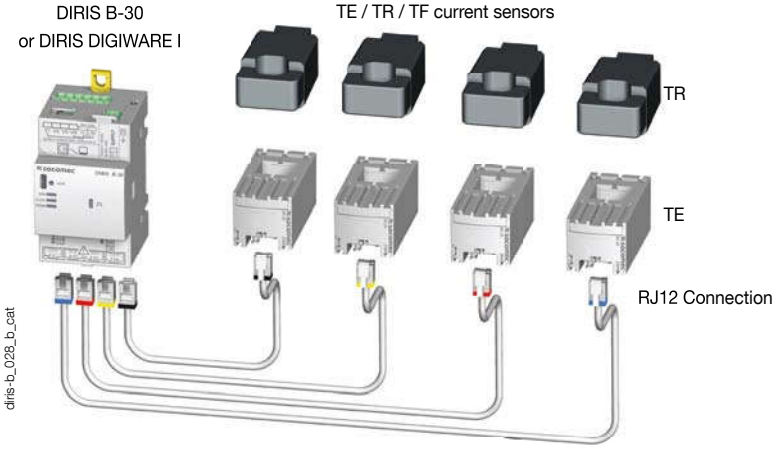


Connections

DIRIS B-30
or DIRIS DIGIWARE I

TE / TR / TF current sensors

diris-b_028_b_cat



Mounting accessories

Mounting accessories provided
with TE current sensors

diris-t_042_a - 043_a - 044_a - 045_a

Fixing	TE-18	TE-25	TE-35 TE-45 TE-55
 DIN-rail or back plate	1 part		
 DIN-rail		2 parts	2 parts
 Back plate		4 parts	4 parts
 Bar			2 parts

Accessories

Adapter for 5A CT

diris-t_041_a_1_cat



- This adapter is for use with a 5 A CT with output terminals on the DIRIS Digiware and DIRIS B-30. For use with standard 5 A current sensors for > 1000 A measurement requirements. Dimensions are identical to TE-18.
See page 35.

Coupling link

- Associated with the TE range, this accessory is for inter-connecting the sensors when linear or staggered mounted.

diris-t_020_a_1_cat





Sealable cover

- Using a sealable cover guarantees the immunity of the sensor connection on TE/TR/TF current sensors.

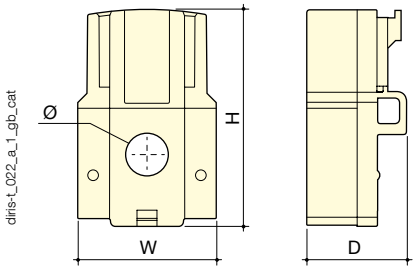
diris-t_046_a_1_cat



Dimensions (mm)

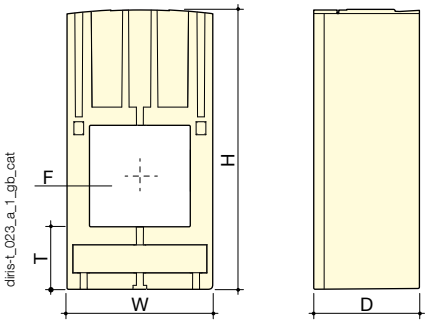
TE - Solid current sensors

TE-18



Model	Nominal current range (A)	Pitch (mm)	H x W x D (mm)	Ø (mm)
TE-18	5 … 63	18	45 x 28 x 20	8,6

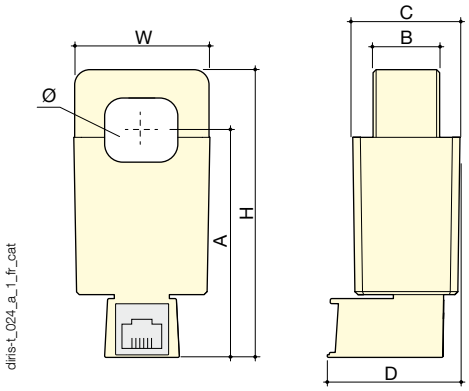
TE-25 / TE-35 / TE-45 / TE-55



Model	Nominal current range (A)	Pitch (mm)	H x W x D (mm)	F (mm)	T
TE-25	40 … 160	25	65 x 25 x 32.5	13.5 x 13.5	17,5
TE-35	63 … 250	35	71 x 35 x 32.5	21 x 21	17,5
TE-45	160 … 630	45	86 x 45 x 32.5	31 x 31	19,5
TE-55	400 … 1000	55	100 x 55 x 32.5	41 x 41	21,5

TR - Split-core current sensors

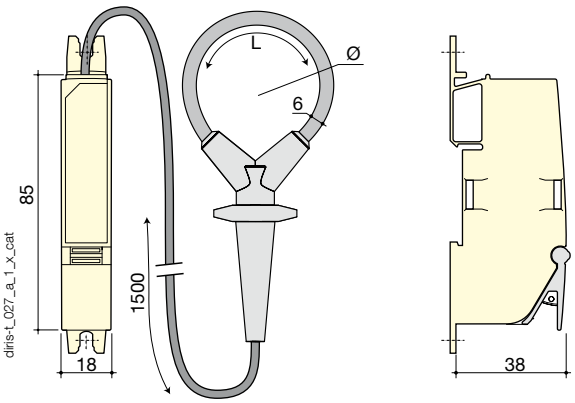
TR-10 / TR-16 / TR-24 / TR-36



Model	Nominal current range (A)	H x W x D (mm)	Ø (mm)	À	W	C
TR-10	25 … 75	71 x 25 x 39	10	58	14,5	26
TR-16	32 … 100	74 x 30 x 42	16	61	19	31
TR-24	63 … 200	95 x 45 x 44	24	72	22	34
TR-36	200 … 600	111 x 57 x 42	36	82	34	40,5

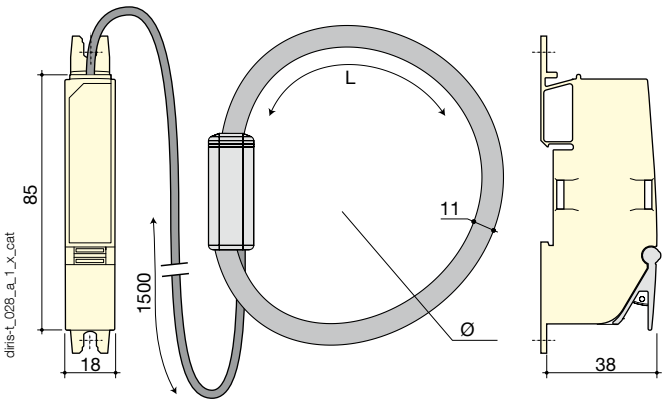
TF - Flexible current sensors

TF -55



Model	Nominal current range (A)	Ø loop	L = loop length
TF -55	150 … 600	55	172

TF-120 / TF-300



Model	Nominal current range (A)	Ø loop	L = loop length
TF -120	500 … 2000	120	376
TF -300	1600 … 6000	300	942

Technical characteristics

TE - Solid current sensors

Model	TE-18	TE-18	TE-25	TE-35	TE-45	TE-55
Nominal current range (A)	5 … 20	25 … 63	40 … 160	63 … 250	160 … 630	400 … 1000(1)
Max. current (A)	24	75.6	192	300	756	1200
Weight (g)	24	24	69	89	140	187
Max. voltage	300 V			600 V		
Rated withstand voltage	3 kV			3,6 kV		
Frequency	50/60 Hz					
Intermittent overload	10 x I_n during 1sec					
Measurement category	CAT III					
Degree of protection	IP30 / IK06					
Operating temperature	-10 … +70 °C					
Storage temperature	-25 … +85 °C					
Relative humidity	95 % non-condensing					
Altitude	2000 m					
Connection	SOCOMEC cable or equivalent RJ12 straight, twisted pair, unshielded 300 V cat. III cable. -40 / +85 °C					

(1) > 1000 A with 5A CT adapter.

TR - Split-core current sensors

Model	TR-10	TR-16	TR-24	TR-36
Nominal current range (A)	25 … 75	32 … 100	63 … 200	200 … 600
Max. current (A)	90	120	240	720
Weight (g)	74	117	211	311
Max. voltage	300 V			
Rated withstand voltage	3 kV			
Frequency	50/60 Hz			
Intermittent overload	10 In for 1 s			
Measurement category	CAT III			
Degree of protection	IP20 / IK06			
Operating temperature	-10 … +70 °C			
Storage temperature	-25 … +85 °C			
Relative humidity	95 % non-condensing			
Altitude	2000 m			
Connection	SOCOMEC cable or equivalent RJ12 straight, twisted pair, unshielded 300 V cat. III cable. -40 / +85 °C			

TF - Flexible current sensors

Model	TF -55	TF -120	TF -300
Nominal current range (A)	150 … 600	500 … 2000	1600 … 6000
Weight (g)	114	142	220
Max. voltage	600 V		
Rated withstand voltage	3,6 kV		
Frequency	50 / 60 Hz		
Intermittent overload	10 I_n for 1 s		
Measurement category	CAT III		
Degree of protection	IP30 / IK07		
Operating temperature	-10 … +70 °C		
Storage temperature	-25 … +75 °C		
Relative humidity	95 % non-condensing		
Altitude	2000 m		
Connection	SOCOMEC cable or equivalent RJ12 straight, twisted pair, unshielded 300 V cat. III cable. -40 / +85 °C		

References

TE - Solid current sensors

Model	Nominal current range (A)	Pitch (mm)	Reference
TE-18	5 … 20	18	4829 **0500**
TE-18	25 … 63	18	4829 **0501**
TE-25	40 … 160	25	4829 **0502**
TE-35	63 … 250	35	4829 **0503**
TE-45	160 … 630	45	4829 **0504**
TE-55	400 … 1000	55	4829 **0505**

TR - Split-core current sensors

Model	Nominal current range (A)	Ø (mm)	Reference
TR-10	25 … 75	10	4829 **0551**
TR-16	32 … 100	16	4829 **0552**
TR-24	63 … 200	24	4829 **0553**
TR-36	200 … 600	36	4829 **0554**

TF - Flexible current sensors

Model	Nominal current range (A)	Ø (mm)	Reference
TF -55	150 … 600	55	4829 **0570**
TF -120	500 … 2000	120	4829 **0571**
TF -300	1600 … 6000	300	4829 **0572**

Accessories	Reference
Coupling links (20 parts for linear mounting and 10 parts for staggered mounting)	4829 **0598**
5A/CT adapter (measurement >1000 A)	4829 **0599**
Sealable covers (20 parts)	4829 **0600**

	Cable length (m)								
RJ12 connection cables	0,1	0,2	0,3	0,5	1	2	5	10	50 m + 50 connectors
N° of cables	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
1	-	-	-	-	-	-	4829 **0602**	4829 **0603**	4829 **0601**
3	4829 **0580**	4829 **0581**	4829 **0582**	4829 **0595**	4829 **0583**	4829 **0584**	-	-	-
4	4829 **0585**	4829 **0586**	4829 **0587**	4829 **0596**	4829 **0588**	4829 **0589**	-	-	-
6	4829 **0590**	4829 **0591**	4829 **0592**	4829 **0597**	4829 **0593**	4829 **0594**	-	-	-