



# Fault-locating core balance transformers

Connects to ISOM Digiware F-60 modules

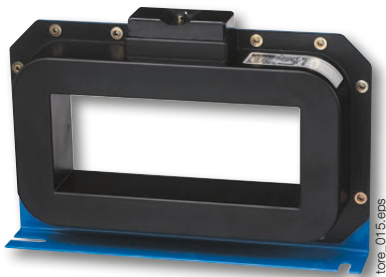
Insulation monitoring



Core balance transformer  $\Delta$ IP-R



Core balance transformer  $\Delta$ IP



Core balance transformer WR

## The solution for

- > Industries
- > Energy production
- > Naval, military and railway infrastructures
- > Healthcare facilities



## Strong points

- > Complete range
- > Number of mounting options ( $\Delta$ IP and  $\Delta$ IP-R)
- > Patented centring solution ( $\Delta$ IP and  $\Delta$ IP-R)
- > Quick to install and safe to use ( $\Delta$ IP-R)

## Conformity to standards

- > IEC 61869-1



## Create your project

- > Find the best Digiware configuration:  
[www.meter-selector.com](http://www.meter-selector.com)



## Function

You need **core balance transformers** to install fault detection and locating units. The transformers surround the active conductors to highlight a faulty current to the earth. Socomec core balance transformers meet measurement sensitivity needs and are suitable for ISOM Digiware locating systems.

Solid ( $\Delta$ IP, WR and TFR series) or split-core ( $\Delta$ IP-R series), they are suitable for all cabling configurations.

The ISOM T-15 adapter is needed to connect to the locating core balance transformers on the ISOM Digiware F-60

## Advantages

### A complete range

All shapes and sizes are available for use with any cable/bar size and configuration.

### Number of mounting options ( $\Delta$ IP and $\Delta$ IP-R)

Mounted on DIN rail, backplate or directly on a cable,  $\Delta$ IP-R core balance transformers can adapt to any installation constraints to make wiring easier and faster.

### Patented centring solution ( $\Delta$ IP and $\Delta$ IP-R)

The flexible cable locator is a patented SOCOMEC innovation. With it, you can locate the cable within the core balance transformer to ensure accurate measuring and improve its immunity to disruptions in the mains power. It also means you can mount the core balance transformer directly on a cable.

### Quick to install and safe to use ( $\Delta$ IP-R)

$\Delta$ IPR split core balance transformers are quick and easy to install with their innovative "one-click" open/close system. This system, designed without any additional components, ensures safe installation.

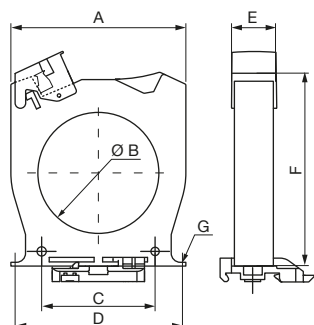
# Fault-locating core balance transformers

Connects to ISOM Digiware F-60 modules

## Dimensions (mm)

### ΔIP-series closed core balance transformers

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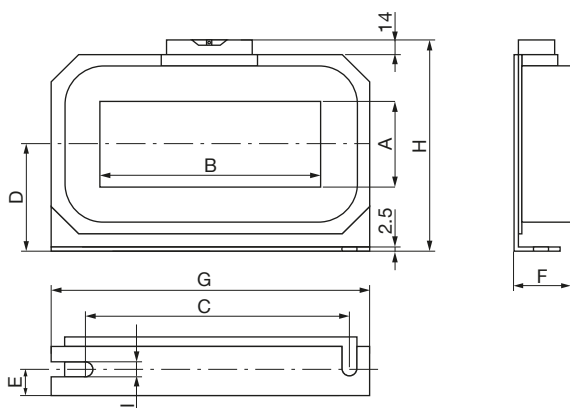


Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Weight (kg)
ΔIP diameter 15	53	17.3	25	50	26	81	M4	0.10
ΔIP diameter 30	92	30	50	85	26	103.5	M4	0.15
ΔIP diameter 50	102.5	50	50	90	26	125	M5	0.27
ΔIP diameter 80	116	80	75	105	26	142.5	M5	0.38
ΔIP diameter 120	163	120	100	150	26	182.5	M6	0.72
ΔIP diameter 200	253	200	150	175 x 41.2	51	274	M6	1.74
ΔIP diameter 300	370	300	200	250 x 41.5	50	390	M6	3.60

A. Width  
B. Diameter  
C. Spacers  
D. Rear bracket spacers  
E. Depth  
F. Height  
G. Diameter of fixing screws

### WR-series rectangular closed core balance transformers

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Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	Weight (kg)
WR 70 x 175	70	175	225	85	22	46	261	176	7.5	2.9
WR 115 x 305	115	305	360	116	25	55	402	240	8	6.3
WR 150 x 350	150	350	415	140	28	55	460	285	8	8.2

A. Gateway width  
B. Gateway length  
C. Spacers  
D. Half-height  
E. Depth of mounting spacers  
F. Depth  
G. Width  
H. Height  
I. Width of oblong fixing holes

## Accessories for core balance transformers ΔIP and ΔIP-R

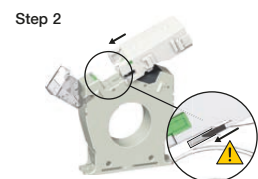
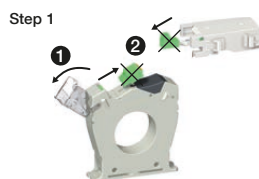
T-15 adapter for core balance transformers ΔIP*	Reference
T-15	4729 0590
T-15t	4729 0591

\* T-15 and T-15t adapters can be installed on the ΔIP core transformers themselves for diameters  $\varnothing \geq 30$  mm.

Flexible cable locator	Diameter (mm)	Reference
Flexible cable locator	30	4950 0011
Flexible cable locator	50	4950 0012
Flexible cable locator	80	4950 0013
Flexible cable locator	120	4950 0014

Metal mounting bracket	Diameter (mm)	Reference
Metal mounting bracket	30	4950 0001
Metal mounting bracket	50	4950 0002
Metal mounting bracket	80	4950 0003
Metal mounting bracket	120	4950 0003
Metal mounting bracket	200	4950 0004
Metal mounting bracket	300	4950 0005

Screw-in/out terminal block	Reference
Screw-in/out terminal block	4950 0041



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# Fault-locating core balance transformers

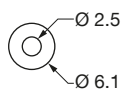
Connects to ISOM Digiware F-60 modules

## Dimensions (mm)

### TFR-series rectangular closed transformers



① Detail for fastening the core balance transformer

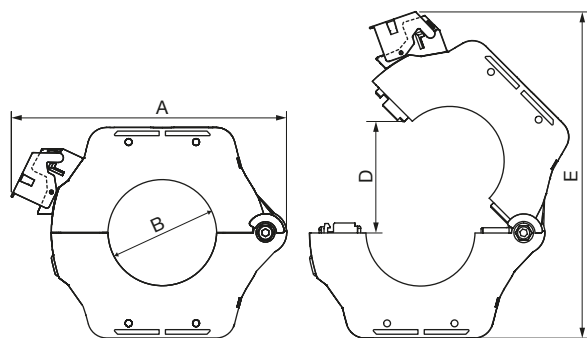


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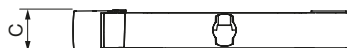
Type	A (mm)	B (mm)	D (mm)	F (mm)	G (mm)	H (mm)	Weight (kg)
TFR 200 x 500	200	500	140	62	585	285	7.2

A. Gateway width  
B. Gateway length  
D. Half-height  
F. Depth  
G. Width  
H. Height

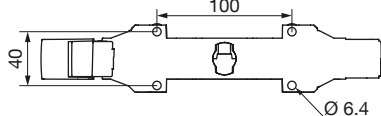
### ΔIP-R series open core balance transformers



ΔIP-R Ø 50 mm / 80 mm



ΔIP-R Ø 120 mm



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Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Weight (kg)
ΔIP-R diameter 50	160	49	30	77	20	0.38
ΔIP-R diameter 80	204	79	30	108	260	0.85
ΔIP-R diameter 120	252	119	30	149	328	1.5

A. Width  
B. Diameter  
C. Depth  
D. Aperture  
E. Height when open

## Characteristics

Electrical specifications	ΔIP	ΔIP-R
Insulation coordination	in accordance with IEC 60664-1	in accordance with IEC 60664-1
Max. operating voltage	720 VAC	720 VAC
Rated shock voltage	8 kV	8 kV
Rated withstand voltage	3 kV	3 kV
Degree of pollution	3	3
Number of turns	600	600
Primary rated current	10 A	10 A
Rated power	0.05 VA	0.05 VA
Max. accuracy class	3	3
Operating temperature	-40 to +80 °C	-40 to +80 °C
Flammability class	UL94V-0	UL94V-0

(1) W-B series: please contact us.

Electrical features for series WR and TFR	
Insulation coordination	in accordance with IEC 60664-1
Insulation voltage	690 VAC
Rated shock voltage	8 kV
Dielectric quality	6 kV
Degree of pollution	3
Number of turns	600
Primary rated current	10 A
Rated power	0.05 VA
Max. accuracy class	5
Operating temperature	-10 to +55 °C
Flammability class	UL94V-0

# Fault-locating core balance transformers

Connects to ISOM Digiware F-60 modules

## References

<b><math>\Delta</math>IP<sup>(1)</sup> series closed core balance transformers</b>		
Type	Diameter of the core balance transformer (mm)	Reference
$\Delta$ IP diameter 15	15	4750 <b>6015</b>
$\Delta$ IP diameter 30	30	4750 <b>6030</b>
$\Delta$ IP diameter 50	50	4750 <b>6050</b>
$\Delta$ IP diameter 80	80	4750 <b>6080</b>
$\Delta$ IP diameter 120	120	4750 <b>6120</b>
$\Delta$ IP diameter 200	200	4750 <b>6200</b>
$\Delta$ IP diameter 300	300	4750 <b>6300</b>

<b>WR and TFR-series rectangular closed transformers</b>		
Type	Core balance transformer opening (mm)	Reference
WR 70 x 175	70 x 175	4795 <b>0717</b>
WR 115 x 305	115 x 305	4795 <b>1130</b>
WR 150 x 350	150 x 350	4795 <b>1535</b>
TFR 200 x 500	200 x 500	4795 <b>2050</b>

<b><math>\Delta</math>IP-R<sup>(1)</sup> series open core balance transformers</b>		
Type	Diameter of the core balance transformer (mm)	Reference
$\Delta$ IP-R diameter 50	50	4750 <b>6051</b>
$\Delta$ IP-R diameter 80	80	4750 <b>6081</b>
$\Delta$ IP-R diameter 120	120	4750 <b>6121</b>

*(1) Core balance transformers  $\Delta$ IP and  $\Delta$ IP-R come with a sealable protective cover, a spring-loaded terminal block (except 15 mm with fixed terminal block and no cap), and a DIN rail attachment accessory for diameters less than 200 mm.*