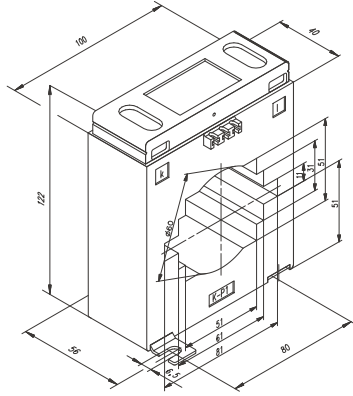


Low-voltage current transformers

PSA 814 – 1274

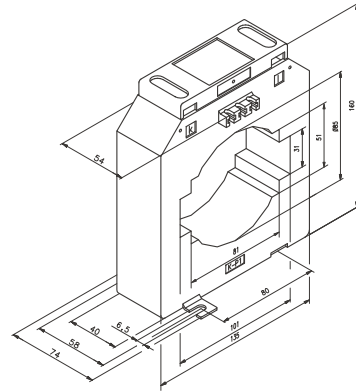
Window-type current transformers

Primary current from 400 to 4000 A, for busbars 80 x 10 / 2 x 100 x 10 mm and base-plates, according to VDE 0414 T44-1 / IEC/EN 60044-1



PSA 814

Primary busbar 80 x 10 mm; 60 x 30 mm
Max. round cable Ø 60 mm

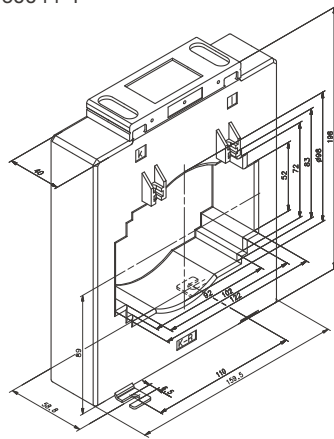


PSA 1034

Primary busbar 2 x 100 x 10 mm; 80 x 50 mm
Max. round cable Ø 85 mm

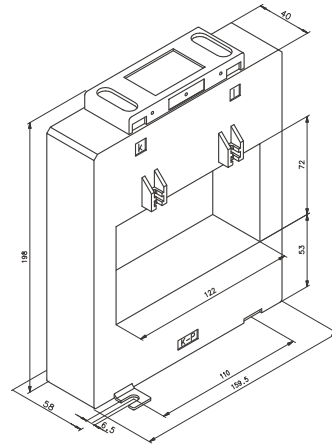
Window-type current transformers

Primary current from 1800 to 5000 A, for busbars 3 x 120 x 10 / 4 x 120 x 10 mm and base-plates, according to VDE 0414 T44-1 / IEC/EN 60044-1



PSA 1254

Primary busbar 3 x 120 x 10 mm
Max. round cable Ø 98 mm



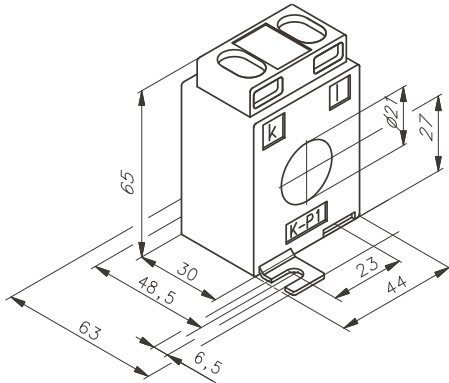
PSA 1274

Primary busbar 4 x 120 x 10 mm

Low-voltage current transformers Tube-type current transformers PSR 200 – PSR 253/30

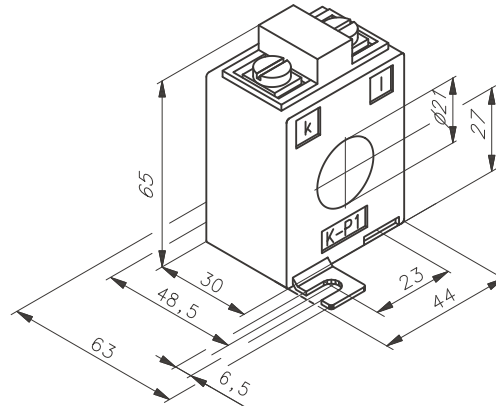
Tube-type current transformers

Primary currents from 50 to 300 A; acc. to VDE 0414 T44-1 / IEC/EN 60044-1



PSR 200

Max. round cable \varnothing 21 mm
 $I_{1N} = 50 \text{ A} - 300 \text{ A}$

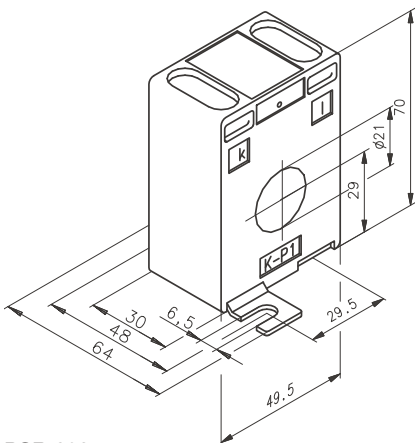


PSR 200.1

Max. round cable \varnothing 21 mm
 $I_{1N} = 50 \text{ A} - 300 \text{ A}$

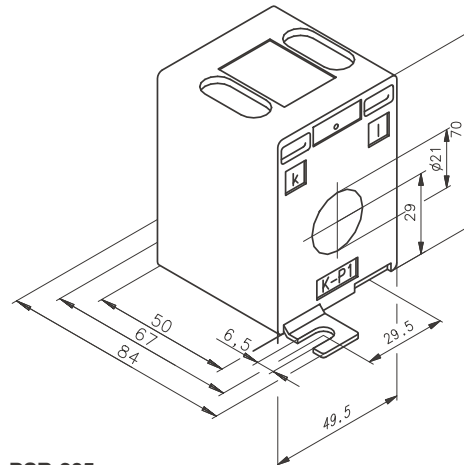
Tube-type current transformers

Primary currents from 50 to 300 A, acc. to VDE 0414 T44-1 / IEC/EN 60044-1



PSR 203

Max. round cable \varnothing 21 mm
 $I_{1N} = 75 \text{ A} - 300 \text{ A}$

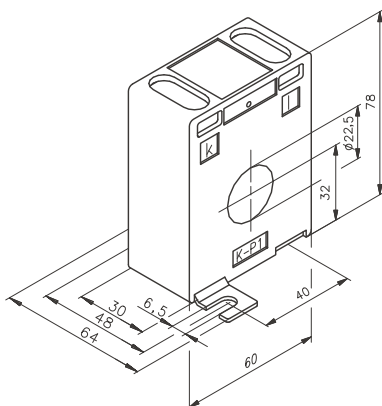


PSR 205

Max. round cable \varnothing 21 mm
 $I_{1N} = 50 \text{ A} - 300 \text{ A}$

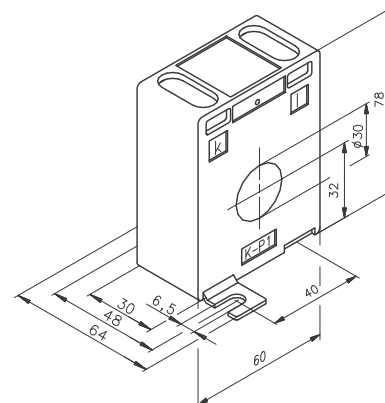
Tube-type current transformers

Primary currents from 50 to 600 A, acc. to VDE 0414 T44-1 / IEC/EN 60044-1



PSR 253

Max. round cable \varnothing 22.5 mm
 $I_{1N} = 50 \text{ A} - 600 \text{ A}$



PSR 253/30

Max. round cable \varnothing 30 mm
 $I_{1N} = 125 \text{ A} - 600 \text{ A}$

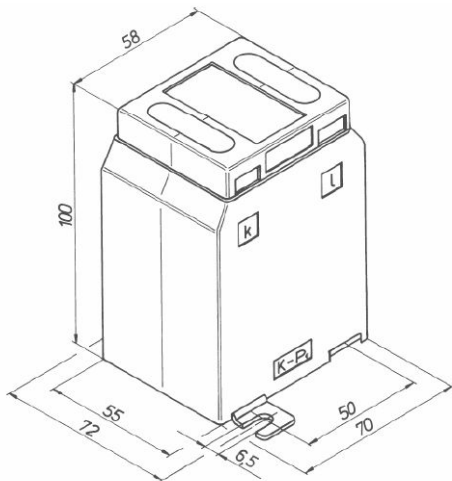
Low-voltage current transformers

Wound-primary current transformers PSW 55, PSW 70

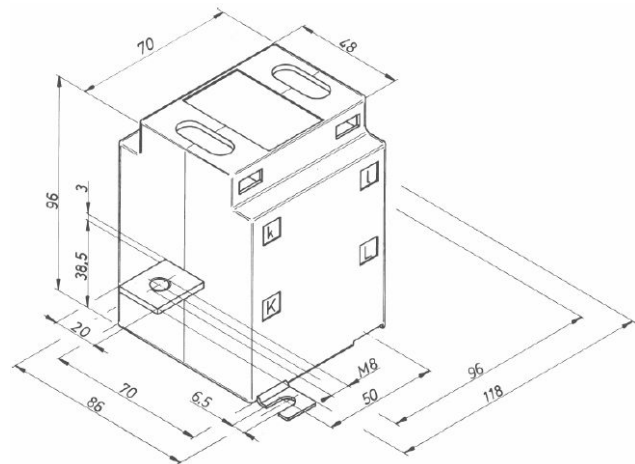
Wound-primary current transformers

5 to 200 A, acc. to VDE 0414 T44-1 / IEC/EN 60044-1

At low current transformer ratios, window-type current transformers can only achieve lower power outputs and accuracy classes. Therefore, the use of wound-primary current transformers is recommended if higher power outputs and accuracy classes are required. In wound-primary current transformers, the primary conductor is wound several times on the magnetic core of the current transformer.



PSW 55
 $I_{1N} = 5 \text{ A} - 40 \text{ A}$



PSW 70
 $I_{1N} = 50 \text{ A} - 200 \text{ A}$

Low-voltage current transformers

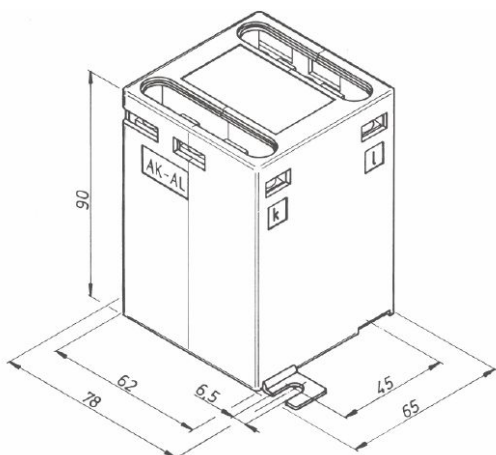
Summation current transformers PSS 2, PGSU

Summation current transformers

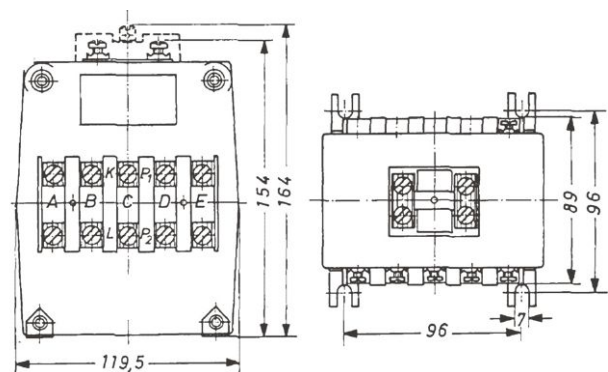
2 – 10 circuits, acc. to VDE 0414 T44-1 / IEC/EN 60044-1

Summation current transformers are used if several window-type current transformers shall be combined into one measurement unit. Here, it must be ensured that window-type current transformers of the same phase are combined with the summation current transformer.

EFEN summation current transformers allow up to 10 power feeders with different window-type current transformers to be combined into one current measurement unit.



PSS 2
 $I_{1N} = 1 \text{ A} + 1 \text{ A} / 5 \text{ A} + 5 \text{ A}$
 $2 \times 5 \text{ A} / 2 \times 1 \text{ A}$

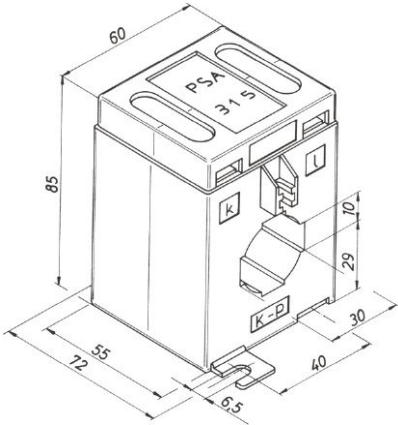


PGSU
 $I_{1N} = 3 \times 5 \text{ A} - 10 \times 5 \text{ A}$

PTB-compliant current transformers for billing purposes EPSA 315 – EPSA 417.2

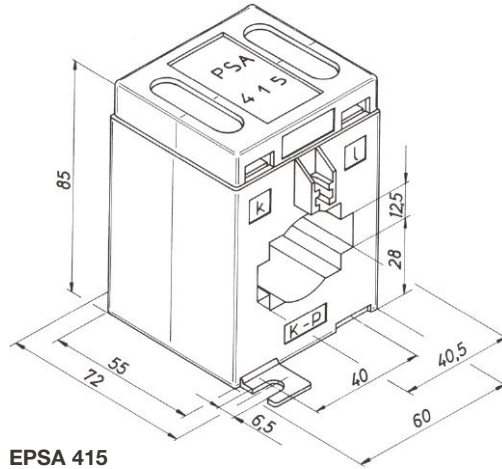
Current transformers for billing purposes

For busbars 30 x 10 / 40 x 10 mm and base-plates, acc. to VDE 0414 T44-1 / IEC/EN 60044-1



EPSA 315

Primary busbar 30 x 10 mm
Max. round cable Ø 28 mm

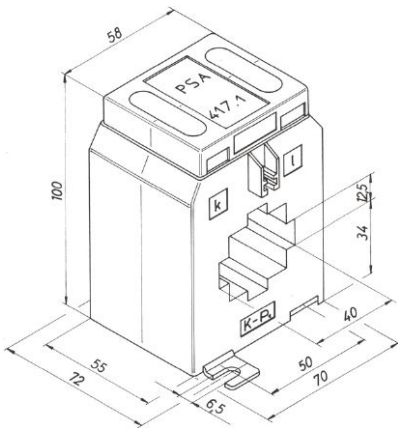


EPSA 415

Primary busbar 40 x 12 mm, 30 x 25 mm
Max. round cable Ø 32 mm

Current transformers for billing purposes

Busbar 40 x 12 mm, acc. to VDE 0414 T44-1 / IEC/EN 60044-1

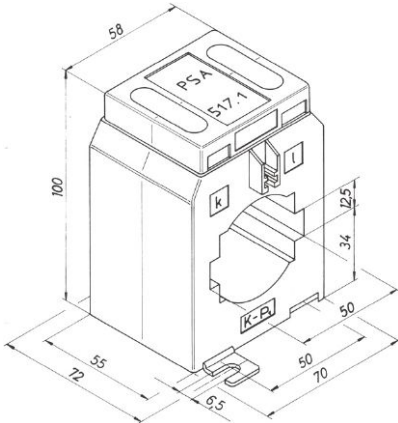


EPSA 417.1

Primary busbar 40 x 12 mm, 30 x 30 mm

Current transformers for billing purposes

Busbar 50 x 12 mm, acc. to VDE 0414 T44-1 / IEC/EN 60044-1



EPSA 517.1

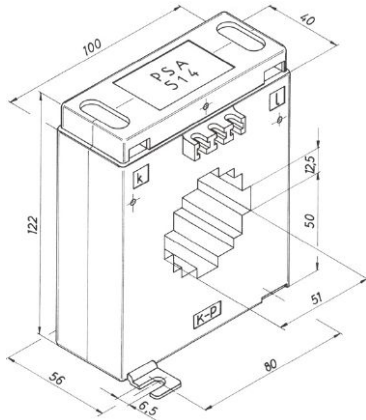
Primary busbar 50 x 12 mm, 40 x 30 mm
Max. round cable Ø 43 mm

PTB-compliant current transformers for billing purposes

EPSA 517.1 – EPSA 1034

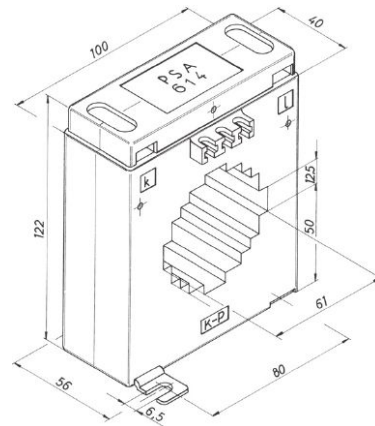
Current transformers for billing purposes

Busbars 50 x 12 / 60 x 10 mm, acc. to VDE 0414 T44-1 / IEC 60044-1



EPSA 514

Primary busbar 50 x 12 mm, 40 x 30 mm
Max. round cable Ø 46 mm

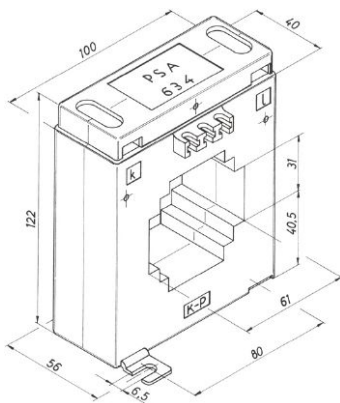


EPSA 614

Primary busbar 60 x 12 mm, 50 x 30 mm, 40 x 40 mm

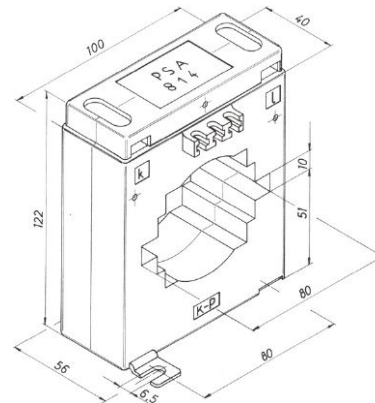
Current transformers for billing purposes

Busbar 60 x 30 / 80 x 10 mm, acc. to VDE 0414 T44-1/IEC/EN 60044-1



EPSA 634

Primary busbar 60 x 30 mm,
50 x 40 mm

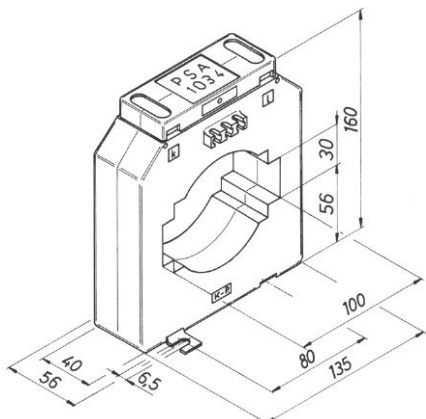


EPSA 814

Primary busbar 80 x 10 mm, 60 x 30 mm,
50 x 50 mm
Max. round cable Ø 60 mm

Current transformers for billing purposes

Busbar 2 x 100 x 10 mm, acc. to VDE 0414 T44-1 / IEC/EN 60044-1



EPSA 1034

Primary busbar 2 x 100 x 10 mm, 80 x 50 mm
Max. round cable Ø 85 mm

Current transformers for NH Fuse-Switches

► Technical data, page 332



77283-6313

E³ low-voltage current-transformer block for E³ NH Fuse-Switches, vertical design, size 00/100

Features:

Current transformer block, class 1; 0.5 retrofitable, terminal 2.5 mm²
One-phase or three-phase measurement (one-phase measurement on L1)

Designation	Size	PU	Product designation	Order no.
100/1, class 1, 1,25 VA, 3-phase measurement	00/100	1	E ³ WB00/100 3X100/1A 1,25VA KL.1	77283-6313
150/1, class 0.5, 2 VA, 3-phase measurement	00/100	1	E ³ WB00/100 3X150/1A 2VA KL.0,5	77283-6522
150/1, class 1, 2,5 VA, 3-phase measurement	00/100	1	E ³ WB00/100 3X150/1A 2,5VA KL.1	77283-6533
150/5, class 1, 1,5 VA, 1-phase measurement	00/100	1	Wandlerblock 00/100 150/5 1ph. 1,5VA KL1	77284-1533
100/1, class 1, 1,25 VA, 1-phase measurement	00/100	1	E ³ WB00/100 100/1A 1,25VA KL.1	77284-6313
150/1, class 1, 1,25 VA, 1-phase measurement	00/100	1	E ³ WB00/100 150/1A 2,5VA KL.1	77284-6533



77150-1836

E³ low-voltage current-transformer for E³ NH Fuse-Switches, vertical design, size 1 – 3

Features:

Single current transformer class 1; 0.5s, box terminal 6 mm²

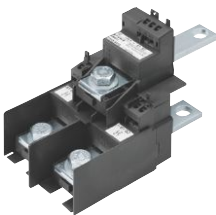
Designation	Size	PU	Product designation	Order no.
150/5 A, 2,5 VA, Kl. 1	1-3	1	E ³ -W1-3 150/5A 2,5VA KL.1	77150-1533
250/5 A, 5 VA, Kl. 1	1-3	1	E ³ -W1-3 250/5A 5VA KL.1	77150-1743
300/5 A, 2,5 VA, Kl. 0,5s	1-3	1	E ³ -W1-3 300/5A 2,5VA KL.0,5S	77150-1836
400/5 A, 2,5 VA, Kl. 0,5s 1-3	1-3	1	E ³ -W1-3 400/5A 2,5VA KL.0,5S	77150-1936
400/5 A, 5 VA, Kl. 1	1-3	1	E ³ -W1-3 400/5A 5VA KL.1	77150-1943
600/5 A, 2,5 VA, Kl. 0,2s 1-3	1-3	1	E ³ -W1-3 600/5A 2,5VA KL.0,2S	77150-2135
600/5 A, 5 VA, Kl. 1	1-3	1	E ³ -W1-3 600/5A 5VA KL.1	77150-2143
600/5 A, 5 VA, Kl. 0,5s	1-3	1	E ³ -W1-3 600/5A 5VA KL.0,5S	77150-2146
800/5 A, 5 VA, Kl. 1	1-3	1	E ³ -W1-3 800/5A 5VA KL.1	77150-2343
150/1 A, 2,5 VA, Kl. 1	1-3	1	E ³ -W1-3 150/1A 2,5VA KL.1	77150-6533
250/1 A, 2,5 VA, Kl. 0,5	1-3	1	E ³ -W1-3 250/1A 2,5VA KL.0,5	77150-6732
250/1, 5 VA, Kl. 1	1-3	1	E ³ -W1-3 250/1A 5VA KL.1	77150-6743
400/1, 5 VA, Kl. 0,5	1-3	1	E ³ -W1-3 400/1A 5VA KL.0,5	77150-6942
400/1 A, 5 VA, Kl. 1	1-3	1	E ³ -W1-3 400/1A 5VA KL.1	77150-6943
600/1 A, 5 VA, Kl. 0,5	1-3	1	E ³ -W1-3 600/1A 5VA KL.0,5	77150-7142
600/1 A, 5 VA, Kl. 1	1-3	1	E ³ -W1-3 600/1A 5VA KL.1	77150-7143



77550-1836

E³ low-voltage current-transformer for E³ NH Fuse-Switches, vertical design, size 1 – 3, PTB-compliant

Designation	Size	PU	Product designation	Order no.
250/5A 2,5VA Kl.0,5	1-3	1	E ³ W1-3 250/5A 2,5VA Kl.0,5	77550-1732
300/5A 2,5VA KL.0,5s	1-3	1	E ³ W1-3 300/5A 2,5VA KL.0,5s	77550-1836
400/5A 5VA KL.0,5S	1-3	1	E ³ W1-3 400/5A 5VA KL.0,5S	77550-1946
600/5A 5VA KL.0,5S	1-3	1	E ³ W1-3 600/5A 5VA KL.0,5S	77550-2146
800/5A 5VA KL.0,5S	1-3	1	E ³ W1-3 800/5A 5VA KL.0,5S	77550-2346



77287-1846

E³ low-voltage current-transformer for E³ NH Fuse-Switches, vertical design, size 1 – 3, for connection in cable branch-off line

Features:

- For multiple-use terminal (screw terminal M12)
- Connection for voltage tapping

Designation	Size	PU	Product designation	Order no.
200/5 2,5 KL 0,5S	1-3	1	E ³ WB1-3 200/5 2,5 KL 0,5S	77287-1636
300/5 5,0 KL 0,5S	1-3	1	E ³ WB1-3 300/5 5,0 KL 0,5S	77287-1846
400/5 5,0 KL 0,5S	1-3	1	E ³ WB1-3 400/5 5,0 KL 0,5S	77287-1946
600/5 5,0 KL 0,5S	1-3	1	E ³ WB1-3 600/5 5,0 KL 0,5S	77287-2146

Measurement and Communication

Current transformers for NH Fuse-Switches

► Technical data, page 332



77587-1946

E³ current transformer block for E³ NH Fuse-Switches, vertical design, size 1 – 3, for connection at cable outlet, PBT-compliant variant for billing purposes

Features:

- For multiple-use terminal (screw terminal M12)
- Connection for voltage tapping

Designation	Size	PU	Product designation	Order no.
200/5 2,5 KL 0,5S	1-3	1	E ³ WB1-3 200/5 2,5 KL 0,5S	77587-1636
300/5 5,0 KL 0,5S	1-3	1	E ³ WB1-3 300/5 5,0 KL 0,5S	77587-1846
400/5 5,0 KL 0,5S	1-3	1	E ³ WB1-3 400/5 5,0 KL 0,5S	77587-1946
600/5 5,0 KL 0,5S	1-3	1	E ³ WB1-3 600/5 5,0 KL 0,5S	77587-2146

Accessories for current transformers for NH Fuse-Switches

Terminal cover for low-voltage current transformer block for size 1 – 3

Designation	PU	Product designation	Order no.
Terminal cover for low-voltage current transformer block	1	KLEMMENABDECKUNG F. WANDLER-BLOCK 3PHASIG	36892-0010



36431-0010

E³-wiring kit for voltage cut-out for size 1 – 3

Features:

- Ready for connection to E³ NH fuse-switch, vertical design
- Connects to input or output
- Includes Cable holder and terminal bolts

Designation	PU	Product designation	Order no.
Wiring kit for voltage cut-out	1	Verdrahtungskit f. Spannungsabnahme	36431-0010



36430-0010

E³-wiring kit for current transformers for size 1 – 3

Features:

- Secondary lines 2.5 mm², black, no. 1-6
- Fits plug-in connections, isolation terminals or metering devices
- For top or bottom connection
- Impulse-withstand voltage 3 kV
- Includes cable holder

Designation	PU	Product designation	Order no.
1-phase wiring kit for current transformer, secondary lines 2.5 mm ² , black no. 1-6, impulse-withstand voltage 3 kV	1	Verdrahtungskit f. 1 Stromwandler	36429-0010
3-phase wiring kit for current transformer, secondary lines 2.5 mm ² , black no. 1-6, impulse-withstand voltage 3 kV	1	E ³ Verdrahtungskit f. 3 Stromwandler	36430-0010



36382-0010

E³-cable holder, click-on, for size 1 – 3

Features:

- Clip-on holder for neat cable routing
- For voltage tapping or for secondary lines

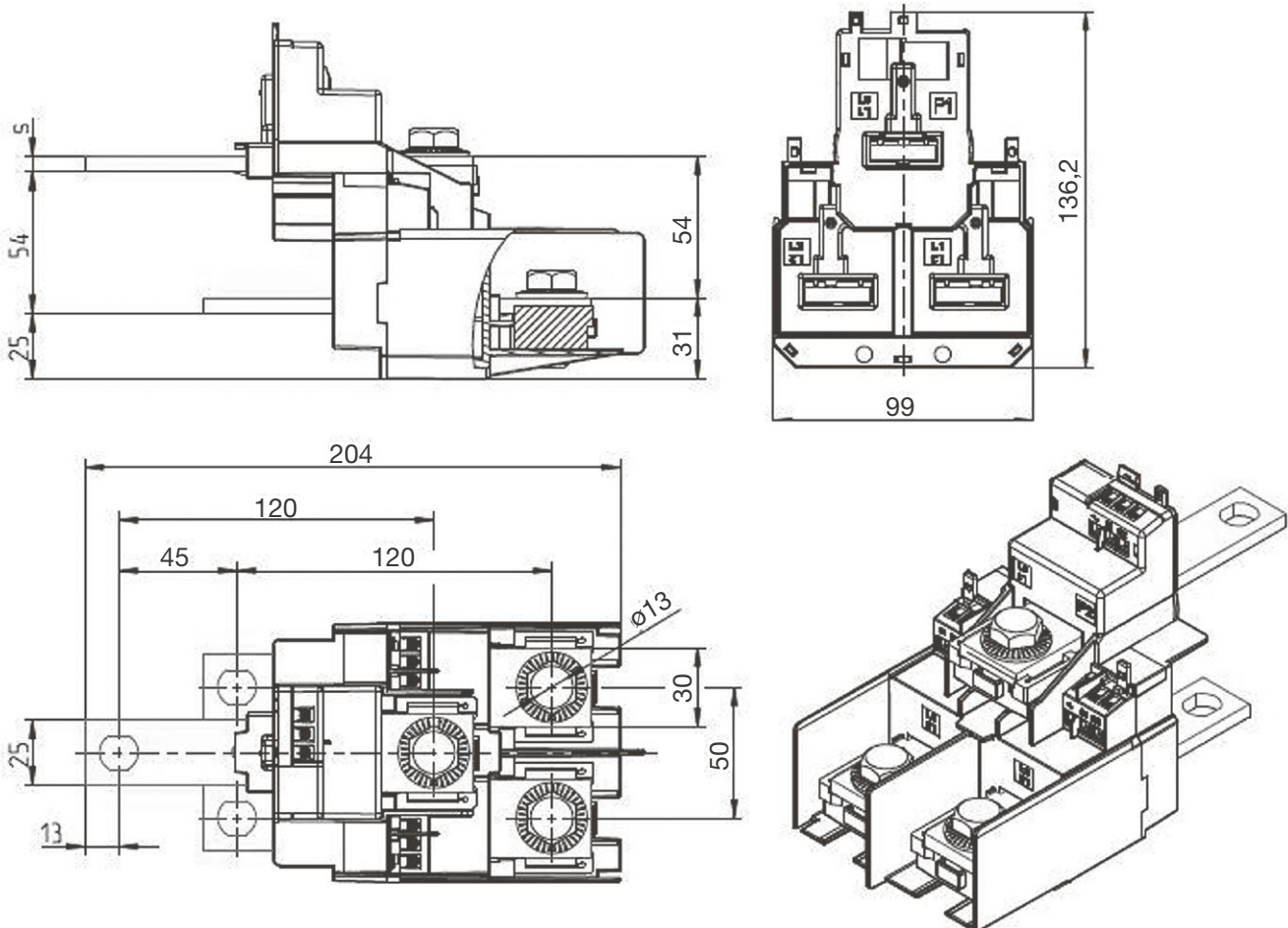
Designation	PU	Product designation	Order no.
Cable holder, click-on, backside mounting	1	Kabelhalter E ³ Gr.1-3	36382-0010

EFEN³-current transformer block, size 1 – 3 for terminal space, standard or PTB-compliant variant

Technical data

Order no. standard	77287-1636	77287-1736	77287-1846	77287-1946	77287-2146
Order no. for billing purposes	77587-1636	77587-1736	77587-1846	77587-1946	77587-2146
Primary rated current	200 A	250 A	300 A	400 A	600 A
Secondary rated current	2,5 A	2,5 A	5 A	5 A	5 A
Rated power	5 VA	5 VA	5 VA	5 VA	5 VA
Class	KL.0,5 s	KL.0,5 s	KL.0,5 s	KL.0,5 s	KL.0,5 s
Frequency	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz
Insulation level	0,72/3 kV	0,7/3 kV	0,7/3 kV	0,72/3 kV	0,7/3 kV
Overcurrent limiting factor	FS5	FS5	FS5	FS5	FS5
Insulating material class	E	E	E	E	F
Thermal rated short-term current	60* I _n max. 50 kA				
Thermal rated uninterrupted current	1,2* I _n	1,2* I _n	1,2* I _n	1,2* I _n	1,2* I _n
Extended current range	120 %	120 %	120 %	120 %	120 %
Ambient temperature	-5° ... +40°C	-5° ... +40°C	-5° ... +40°C	-5° ... +40°C	-5° ... +40°C
Standards	VDE0414T 44-1, IEC60044-1				
Torque f. secondary terminals	1.5 to 2 Nm				

Current transformer block for NH Fuse-Switches

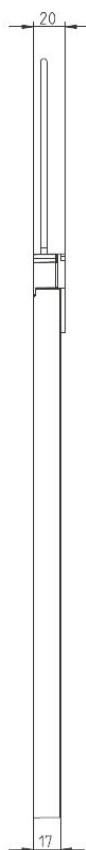
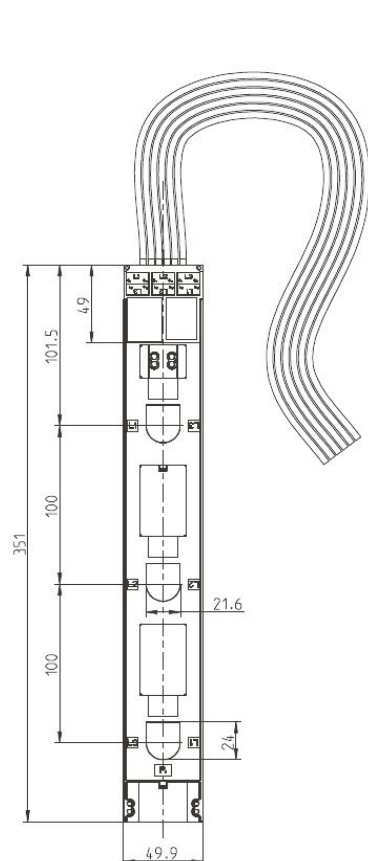


E³-Current transformer block size 00/100 1-phase or 3-phase metering (1-phase at L1)

Technical data

Article designation	Ratio	VA output	Class	Order no.
E ³ WB00/100 3X100/1 1,25 VA KL.1	3 x 100/1	1,25	1	77283-6313
E ³ WB00/100 3X150/1 2,5 VA KL.1	3 x 150/1	2,5	1	77283-6533
E ³ WB00/100 3X150/1 2,0 VA KL.0,5	3 x 150/1	2,0	0,5	77283-6522
E ³ WB00/100 1X100/1 1,25 VA KL.1	1 x 100/1	1,25	1	77284-6313
E ³ WB00/100 1X150/1 1,25 VA KL. 1	1 x 150/1	1,25	1	77284-6533
E ³ WB00/100 3X150/5 1,5 VA KL.1	3 x 150/5	1,5	1	77283-1523
E ³ WB00/100 1X150/5 1,5VA KL.1	1 x 150/5	1,5	1	77284-1523

Description	Unit	Value
Electrical parameters		
Technical data acc. to VDE 0414 T44-1/ IEC/EN 60044-1		
Primary rated current I1N	A	See transformer
S IN2	A	See transformer
Rated frequency	Hz	50
Rated isolation level	kV	0,72 / 3,00
Thermal rated uninterrupted current	A	1,2 x I _n
Thermal rated short-time current I _{th}		60 x I _n ; max. 50 kA
Permissible ambient temperature	°C	- 40 to + 40 °C
Extended current range		120%
Insulation class acc. to IEC 60085 E	3 x 100/1	E ³ Zub.
Conductor connection	3 x 100/1	E ³ Zub.
Connection of secondary terminal	mm ²	2,5 - 4
Torque of secondary terminal	Nm	0,8



Connection of assembled end pieces for ratio to 5 Amps Cable length 2 m.

Converter terminals top / cable terminal bottom:

L1 / S1 = black
S2 = brown
L2 / S1 = gray
S2 = white
L3 / S1 = blue
S2 = red

Converter terminals bottom / cable terminal top:

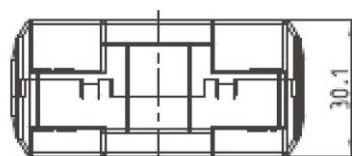
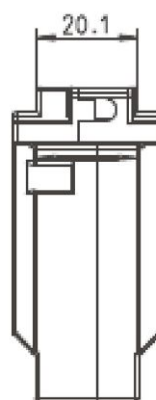
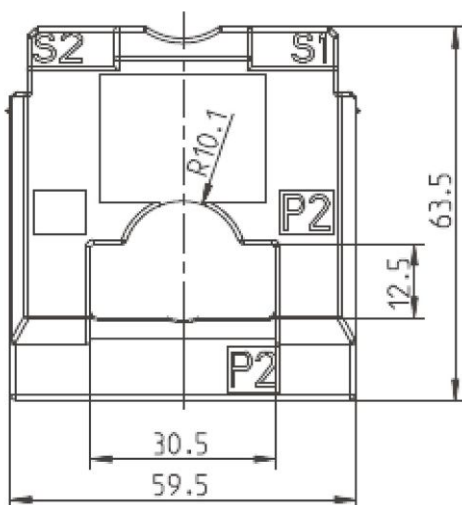
L1 / S1 = blue
S2 = red
L2 / S1 = gray
S2 = white
L3 / S1 = black
S2 = brown

E³-Drop-in transformers of size 1 – 3, PTB-compliant variant for billing purposes for E³ NH Fuse-Switches, vertical design, size 1 – 3

Technical data

Article designation	Ratio	VA output	Class	Order no.
E_E ³ W1-3 250/5A 2,5VA Kl.0,5	250/5	2,5	0,5	77550-1732
E_E ³ W1-3 300/5A 2,5VA Kl.0,5s	300/5	2,5	0,5s	77550-1836
E_E ³ W1-3 400/5A 5VA Kl.0,5s	400/5	5	0,5s	77550-1946
E_E ³ W1-3 600/5A 5VA Kl.0,5s	600/5	5	0,5s	77550-2146
E_E ³ W1-3 800/5A 5VA Kl.0,5s	800/5	5	0,5s	77550-2346
Cable holder E ³ size 1 – 3				36382-0010

Description	Unit	Value
Electrical parameters		
Technical data acc. to VDE 0414 T44-1/ IEC/EN 60044-1		
Primary rated current I _{1N}	A	See transformer
Secondary rated current I _{N2}	A	See transformer
Rated frequency	Hz	50
Rated isolation level	kV	0,72 / 3,00
Thermal rated uninterrupted current	A	1,2 x I _n
Thermal rated short-time current I _{th}		60 x I _n ; max. 50 kA
Permissible ambient temperature	°C	- 5 to + 40 °C
Extended current range		120%
Insulating material class acc. to IEC 60085		E
Connection of secondary terminal	mm ²	2,5 - 4
Torque of secondary terminal	Nm	0,8



Ε3-Current transformers

Technical data

Current transformer block and current transformer class 0.5 s

Technical data acc. to VDE 0414 T 44-1 / IEC/EN 60044-1

Primary rated current	I_{1N}	300 A, 600 A, 800 A
Secondary rated current	I_{2N}	5 A
Rated frequency		50-60 Hz
Maximum voltage at equipment	U_m	720 V
Rated power-frequency withstand current (impulse-withstand voltage)		3 kV
Instrument security factor (FS)		FS 5
Thermal rated uninterrupted current		$1,2 \times I_{1N}$
Current rating		120% 800 A = 100%
Thermal rated short-time current		$I_{th} = 60 \times I_{1N}$ max. 50 kA
Rated dynamic current		$I_{dyn} = 2,5 \times I_{th}$ max. 120 kA
Permissible ambient temperature		-25° C to +55° C
Insulating material class acc. to IEC 60085		E
Degree of protection DIN/EN 60529/VDE 0470 T1		IP 20
Enclosure type		Closed enclosure
Enclosure material		Polyamide 6
Connection of secondary terminal		Box clamp 1.5 – 4 mm ²
Torque of secondary terminal		0,8 Nm
Approved for official calibration		System number

Current transformer, class 1

Technical data acc. to VDE 0414 T 44-1 / IEC/EN 60044-1

Primary rated current	I_{1N}	150-1000 A
Secondary rated current	I_{2N}	1 and 5 A
Rated frequency		50-60 Hz
Maximum voltage at equipment	U_m	720 V
Rated power-frequency withstand current (impulse-withstand voltage)		3 kV
Instrument security factor (FS)		FS 5
Thermal rated uninterrupted current		$1,2 \times I_{1N}$
Current rating		120% 1000 A = 100%
Thermal rated short-time current		$I_{th} = 60 \times I_{1N}$ max. 50 kA
Rated dynamic current		$I_{dyn} = 2,5 \times I_{th}$ max. 120 kA
Permissible ambient temperature		-25° C to +55° C
Insulating material class acc. to IEC 60085		E
Degree of protection DIN/EN 60529/VDE 0470 T1		IP 20
Enclosure type		Closed enclosure
Enclosure material		Polyamide 6
Connection of secondary terminal		Box clamp 1.5 – 4 mm ² , strand with end sleeve
Torque of secondary terminal		0,8 Nm

Recommended wiring for current transformer of class 1

Halogen-free multiple-strand wiring 2.5 mm² Temperature resistance 105 °C Test voltage 2500 V



Fuse-Monitoring

In state-of-the-art power distribution grids, real-time communication of system statuses over longer distances is becoming more and more important so as to be able to respond quickly in the event of changes or malfunctions. The possibility for instantaneous communication of the interface as soon as the fuse has tripped is a must.

System

The fuse-monitoring device is quickly and easily connected using the integrated terminals. In this way, the cables are routed safely under the field cover.

Features

With the new electronic fuse-monitoring, EFEN's portfolio comprises an integrated solution that satisfies any imaginable requirement and is also suitable for retrofitting systems.



Fuse-Monitoring

NH Fuse-Switches, horizontal design	page 338
NH Fuse-Switches, horizontal design for DC applications	page 348
E³ NH Fuse-Switches, vertical design	page 351
NH Fuse-Bases	page 353
Accessories for tripping-indication and measurement devices.	page 354
Technical data	page 341

Fuse-Monitoring electronic



Fuse-Monitoring mechanical



Easy upgrading

thanks to the **E³** uniform dimensions dimensions of the fuse-switch



NH Fuse-Switches, horizontal design, size 000 – 4a for baseplate mounting

► Technical data, page 341



34170-0130

NH fuse-switch, horizontal design, 690 V AC, 3-pole, for baseplate mounting

Features:

- Electronic fuse monitoring (ESÜ)
- No auxiliary power supply required
- Independent of feed side

Designation	Size	Amps	PU	Product designation	Order no.
Box clamp 2.5 – 50 mm ²	000/53	100	1	SILAS NH000 ESF MA R4R4	34040-0137
Box clamp 2.5 – 95 mm ²	00	160	1	SILAS NH00 ESF MA R5R5	34076-0130
Multiple-use terminal (bolt M8)	00	160	1	SILAS NH00 ESF MA U5U5	34077-0130
Multiple-use terminal (bolt M10)	1	250	1	SILAS NH1 ESF MA U2U2	34170-0130
Box clamp 35 – 150 mm ²	1	250	1	SILAS NH1 ESF MA RR	34175-0130
Multiple-use terminal (bolt M10)	2	400	1	SILAS NH2 ESF MA U2U2	34270-0130
Box clamp 95 – 300 mm ²	2	400	1	SILAS NH2 ESF MA RR	34275-0130
Multiple-use terminal (bolt M10)	3	630	1	SILAS NH3 ESF MA U2U2	34370-0130
Box clamp 95 – 300 mm ²	3	630	1	SILAS NH3 ESF MA RR	34375-0130



34170-0030

NH fuse-switch, horizontal design, 690 V AC, 3-pole, for baseplate mounting

Features:

- Mechanical fuse monitoring by motor protections switch (MSÜ)
- Monitoring of all fuses
- No auxiliary power supply required

Designation	Size	Amps	PU	Product designation	Order no.
Box clamp 2.5 – 95 mm ²	00	160	1	SILAS NH00 SN R5R5	34076-0030
Multiple-use terminal (bolt M8)	00	160	1	SILAS NH00 SN U5U5	34077-0030
Multiple-use terminal (bolt M10)	1	250	1	SILAS NH1 SN U2U2	34170-0030
Box clamp 35 – 150 mm ²	1	250	1	SILAS NH1 SN RR	34175-0030
Multiple-use terminal (bolt M10)	2	400	1	SILAS NH2 SN U2U2	34270-0030
Box clamp 95 – 300 mm ²	2	400	1	SILAS NH2 SN RR	34275-0030
Multiple-use terminal (bolt M10)	3	630	1	SILAS NH3 SN U2U2	34370-0030
Box clamp 95 – 300 mm ²	3	630	1	SILAS NH3 SN RR	34375-0030
Screw terminal M16, 3-pole switching	4a	1250	1	NH-LATR 4A 3P SN/SG L8L8	34400-0030

Measurement and Communication

NH Fuse-Switches SILAS, horizontal design, size 000 to 3 busbar systems 40/12

NH Fuse-Switches, horizontal design, for busbar mounting

Fuse-switches of the SILAS series are designed to be mounted on busbars. They feature a consistent installation depth and are easily and flexibly installed in accordance with customer requirements.

► Technical data, page 341



39000-0137

NH piggyback Fuse-Switches, horizontal design, 690 V AC for 40/12 mm busbar systems, installation depth 70 mm, plug-in contacting

Features:

- Electronic fuse monitoring (ESÜ)
- No auxiliary power supply required
- Independent of feed side
- Size 1 and 2 with hook contacting, non-reversible, top terminal

Designation	Size	Amps	PU	Product designation	Order no.
Box clamp 2.5 – 50 mm ² , bottom terminal	000	100	1	SILAS SB NH000 40 ESF MA AU R4	39000-0137
Box clamp 2.5 – 95 mm ²	00	160	1	SILAS SB NH00 40 EB70 ESF MA R5	39020-0130
Multiple-use terminal (bolt M8)	00	160	1	SILAS SB NH00 40 EB70 ESF MA U5	39021-0130
Multiple-use terminal (bolt M10)	1	250	1	SILAS SB NH1 40 EB70 ESF MA U2	39060-0130
Box clamp 35 – 150 mm ²	1	250	1	SILAS SB NH1 40 EB70 ESF MA R	39061-0130
Multiple-use terminal (bolt M10)	2	400	1	SILAS SB NH2 40 EB70 ESF MA AO U2	39078-0130
Box clamp 95 – 300 mm ²	2	400	1	SILAS SB NH2 40 EB70 ESF MA AO R	39079-0130



39079-0030

NH piggyback Fuse-Switches, horizontal design, 690 V AC for 40/12 mm busbar systems, installation depth 70 mm, plug-in contacting

Features:

- Mechanical fuse monitoring by motor protections switch (MSÜ)
- Monitoring of all fuses
- No auxiliary power supply required
- Size 1 and 2 with hook contacting, non-reversible, top terminal

Designation	Size	Amps	PU	Product designation	Order no.
Box clamp 2.5 – 95 mm ²	00	160	1	SILAS SB NH00 40 EB70 SN R5	39020-0030
Multiple-use terminal (bolt M8)	00	160	1	SILAS SB NH00 40 EB70 SN U5	39021-0030
Multiple-use terminal (bolt M10)	1	250	1	SILAS SB NH1 40 EB70 SN U2	39060-0030
Box clamp 35 – 150 mm ²	1	250	1	SILAS SB NH1 40 EB70 SN R	39061-0030
Multiple-use terminal (bolt M10)	2	400	1	SILAS SB NH2 40 EB70 SN AO U2	39078-0030
Box clamp 95 – 300 mm ²	2	400	1	SILAS SB NH2 40 EB70 SN AO R	39079-0030

NH Fuse-Switches SILAS, horizontal design, size 000 to 3 Busbar systems 60 mm

The horizontal-design NH Fuse-Switches of the SILAS series yield many benefits when installed on 60-mm busbar systems.

- Rotating hook contacting for top or bottom terminal position
- Narrowest device worldwide within this system (size 000)
- Consistent field cover height for all sizes

► Technical data, page 341



39040-0130

NH piggyback Fuse-Switches, horizontal design, 690 V AC, for 60-mm busbar systems, 32 mm installation depth, hook contacting, for combination with D0 elements

Features:

- Electronic fuse monitoring (ESÜ)
- No auxiliary power supply required
- Independent of feed side

Designation	Size	Amps	PU	Product designation	Order no.
Box clamp 2.5 – 50 mm ² , bottom terminal	000	100	1	SILAS SB NH000 60 ESF MA AU R4	39010-0137
Box clamp 2.5 – 50 mm ² , top terminal	000	100	1	SILAS SB NH000 60 ESF MA AO R4	39011-0137
Box clamp 2.5 – 95 mm ²	00	160	1	SILAS SB NH00 60 EB32 ESF MA R5	39040-0130
Box clamp 2.5 – 95 mm ²	00	160	1	SILAS SB NH00 60 EB70 ESF MA R5	39050-0130
Multiple-use terminal (bolt M8)	00	160	1	SILAS SB NH00 60 EB70 ESF MA U5	39052-0130
Box clamp 2.5 – 95 mm ²	00	160	1	SILAS SB NH00 60 EB70 SN R5	39050-0030
Multiple-use terminal (bolt M10)	1	250	1	SILAS SB NH1 60 EB70 ESF MA U2	39064-0130
Box clamp 35 – 150 mm ²	1	250	1	SILAS SB NH1 60 EB70 ESF MA R	39068-0130
Multiple-use terminal (bolt M10)	2	400	1	SILAS SB NH2 60 EB70 ESF MA U2	39070-0130
Box clamp 95 – 300 mm ²	2	400	1	SILAS SB NH2 60 EB70 ESF MA R	39074-0130
Multiple-use terminal (bolt M10)	3	630	1	SILAS SB NH3 60 EB70 ESF MA U2	39080-0130
Box clamp 95 – 300 mm ²	3	630	1	SILAS SB NH3 60 EB70 ESF MA R	39084-0130
Box clamp 2.5 – 95 mm ²	00	160	1	SILAS SB NH00 60 EB70 ESF MA R5	39050-0130



39068-0030

NH piggyback Fuse-Switches, horizontal design, 690 V AC, for 60-mm busbar systems, 70 mm installation depth, hook contacting

Features:

- Mechanical fuse monitoring by motor protections switch (MSÜ)
- Monitoring of all fuses
- No auxiliary power supply required

Designation	Size	Amps	PU	Product designation	Order no.
Box clamp 2.5 – 95 mm ²	00	160	1	SILAS SB NH00 60 EB70 SN R5	39050-0030
Multiple-use terminal (bolt M8)	00	160	1	SILAS SB NH00 60 EB70 SN U5	39052-0030
Multiple-use terminal (bolt M10)	1	250	1	SILAS SB NH1 60 EB70 SN U2	39064-0030
Box clamp 35 – 150 mm ²	1	250	1	SILAS SB NH1 60 EB70 SN R	39068-0030
Multiple-use terminal (bolt M10)	2	400	1	SILAS SB NH2 60 EB70 SN U2	39070-0030
Box clamp 95 – 300 mm ²	2	400	1	SILAS SB NH2 60 EB70 SN R	39074-0030
Multiple-use terminal (bolt M10)	3	630	1	SILAS SB NH3 60 EB70 SN U2	39080-0030
Box clamp 95 – 300 mm ²	3	630	1	SILAS SB NH3 60 EB70 SN R	39084-0030

Technical data of the electronic and mechanical fuse-monitoring devices

Electronic fuse-monitoring

- Indication of fault-free operation by green LED
- Fault indication by red LED
- No auxiliary power supply required
- Remote indication via 4-pole connector and 1 NC and 1 NO contact
- Monitoring of all fuses red LED flashes in the case of failure
- Automatic reset after replacement of tripped fuse-link(s)
- Independent of feed side

Technical data	
Rated operational voltage U_e	AC 400 V – AC 690 V 50/60 Hz
Rated isolation voltage U_i	1000 V
Rated impulse withstand-current U_{imp}	8 kV
Conditional rated short-circuit current (when protected by NH fuse-links)	50 kA
Permissible ambient temperature	-20 °C – +55 °C
Delay	1 - 1,5 s
Function	Differential voltage > 30 V
Indicators	Operating voltage green LED flashes Fuse tripped: red LED flashes
Alert output	Relay with NC and NO contacts. Reliable isolation acc. to EN 50178
Operating voltage/current-alert output	AC 250 V/DC 30 V max. 5 A

Mechanical fuse monitoring with circuit breaker

- Indication: Position "I" – ready for operation Position "0" – Fault
- Remote indication via 4-pole connector and 1 NC and 1 NO contact
- No auxiliary power supply required
- Monitoring of all fuses

Technical data				
Rated operational voltage U_e	AC 24 V–AC 690 V / 50/60 Hz / DC 24 V – DC 250 V			
Rated isolation voltage U_i	690 V			
Rated impulse withstand-current U_{imp}	6 kV			
Conditional rated short-circuit current (when protected by NH fuse-links)	50 kA			
Permissible ambient temperature	-20 °C – +55 °C			
Delay	< 0,5 s			
Function	From 25 V voltage drop			
Indicators	Ready for operation: handle position "I" Fault indication: handle position "0"			
Alert output	Aux. contact 1 NC + 1 NO			
Operating-voltage alert output	AC 24 V	AC 230 V	DC 24 V	DC 60 V
Operating-current alert output	2 A	0,5 A	1 A	0,15 A

NH Fuse-Switches SILAS, horizontal design

For baseplate mounting, with electronic fuse-monitoring, up to 690 V AC

Description	Size	Amps I _n	PU	Weight in kg	Designation	Order no.
With box clamp rm/re 50 mm ²	000	100 A	1	0,5	SILAS NH000 ESF MA R4R4	34040-0137
Multiple-use terminal (bolt M8)	00	160 A	1	0,7	SILAS NH00 ESF MA U5U5	34077-0130
With box clamp rm/re 95 mm ²	00	160 A	1	0,7	SILAS NH00 ESF MA R5R5	34076-0130
Multiple-use terminal (bolt M10)	1	250 A	1	2,1	SILAS NH1 ESF MA U2U2	34170-0130
With box clamp rm/re 150 mm ²	1	250 A	1	2,2	SILAS NH1 ESF MA RR	34175-0130
Multiple-use terminal (bolt M10)	2	400 A	1	3,1	SILAS NH2 ESF MA U2U2	34270-0130
With box clamp rm/re 300 mm ²	2	400 A	1	3,7	SILAS NH2 ESF MA RR	34275-0130
Multiple-use terminal (bolt M10)	3	630 A	1	3,6	SILAS NH3 ESF MA U2U2	34370-0130
With box clamp rm/re 300 mm ²	3	630 A	1	4,1	SILAS NH3 ESF MA RR	34375-0130

For dimensions of fuse-monitoring devices see page 345

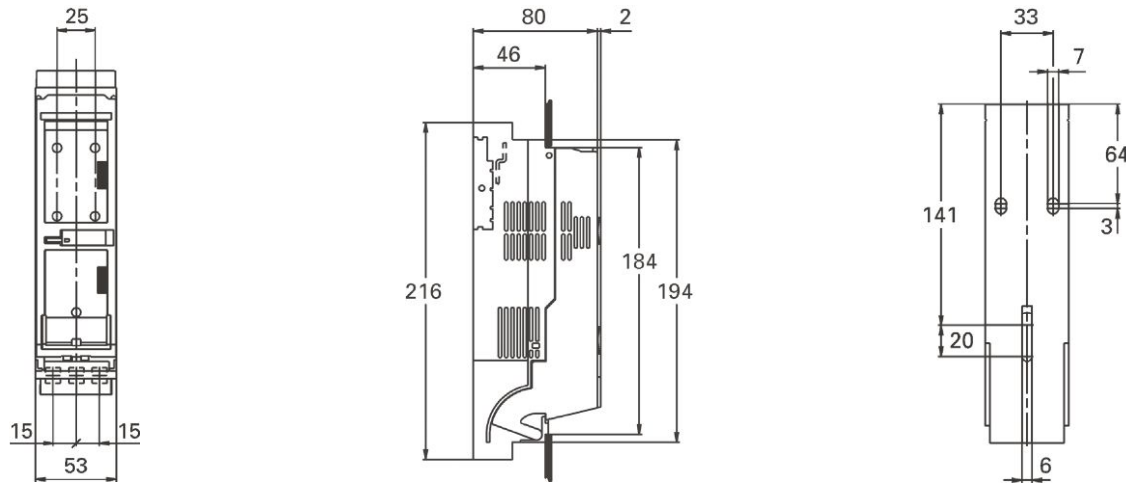
For baseplate mounting, with mechanical fuse-monitoring, up to 690 V

Description	Size	Amps I _n	PU	Weight in kg	Designation	Order no.
Multiple-use terminal (bolt M8)	00	160 A	1	1,0	SILAS NH00 SN U5U5	34077-0030
With box clamp rm/re 95 mm ²	00	160 A	1	1,0	SILAS NH00 SN R5R5	34076-0030
Multiple-use terminal (bolt M10)	1	250 A	1	2,4	SILAS NH1 SN U2U2	34170-0030
With box clamp rm/re 150 mm ²	1	250 A	1	2,6	SILAS NH1 SN RR	34175-0030
Multiple-use terminal (bolt M10)	2	400 A	1	3,4	SILAS NH2 SN U2U2	34270-0030
With box clamp rm/re 300 mm ²	2	400 A	1	4,0	SILAS NH2 SN RR	34275-0030
Multiple-use terminal (bolt M10)	3	630 A	1	3,9	SILAS NH3 SN U5U5	34370-0030
With box clamp rm/re 300 mm ²	3	630 A	1	4,4	SILAS NH3 SN RR	34375-0030

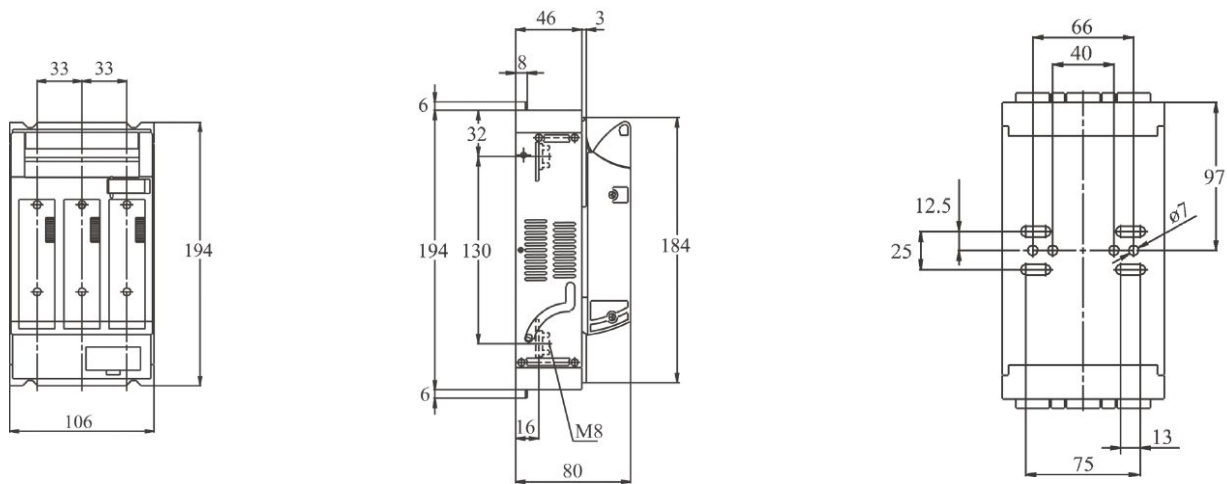
For dimensions of fuse-monitoring devices see page 345

NH Fuse-Switches SILAS, horizontal design

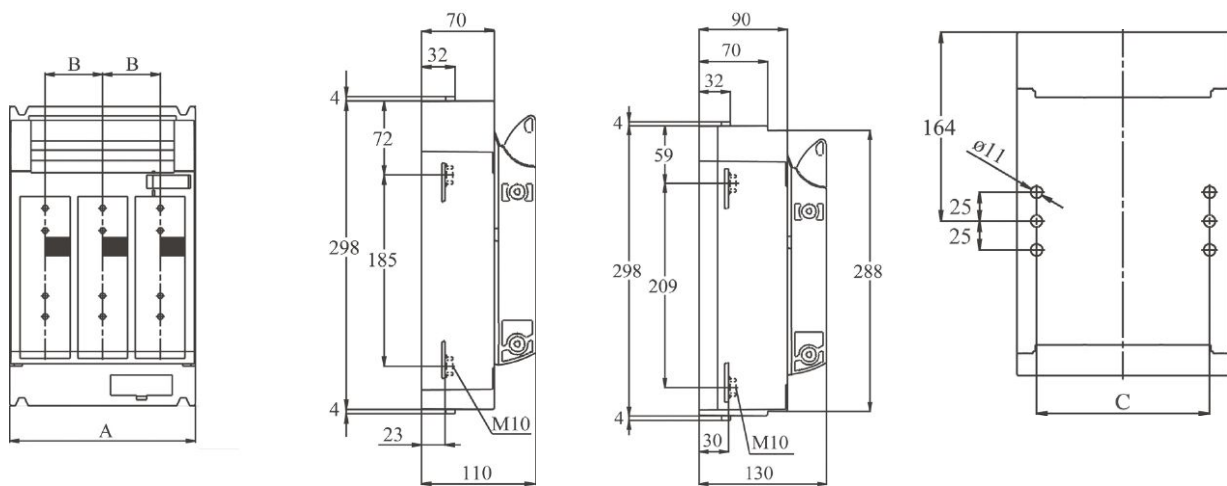
Dimensions drawings
Size 000



Dimensions drawings
Size 00



Dimensions drawings
Size 1 - 3



Size	A	B	C
1	184	57	150
2	210	65	166
3	250	80	195

Size 1

Size 2/3

Measurement and Communication

NH Fuse-Switches SILAS, horizontal design

For busbar system 40/12 according to DIN 43870, with electronic fuse-monitoring, up to 690 V AC

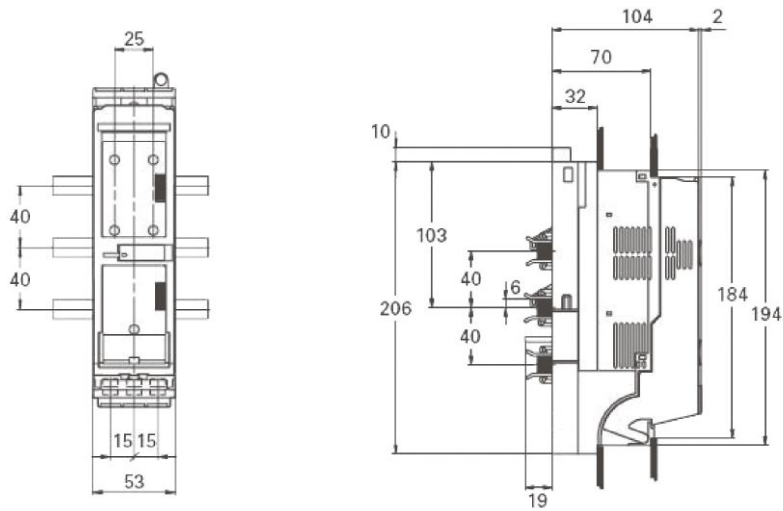
Description	Size	Amps I _n	PU	Weight in kg	Designation	Order no.
With box clamp rm/re 50 mm ² Bottom terminals	000	100 A	1	0,6	SILAS SB NH000 40 ESF MA AU R4	39000-0137
With box clamp rm/re 50 mm ² Top terminals	000	100 A	1	0,6		39001-0137
Multiple-use terminal (bolt M8)	00	160 A	1	0,9	SILAS SB NH00 40 EB70 ESF MA U5	39021-0130
With box clamp rm/re 95 mm ²	00	160 A	1	0,9	SILAS SB NH00 40 EB70 ESF MA R5	39020-0130
Multiple-use terminal (bolt M10)	1	250 A	1	2,3	SILAS SB NH1 40 EB70 ESF MA U2	39060-0130
With box clamp rm/re 150 mm ²	1	250 A	1	2,3	SILAS SB NH1 40 EB70 ESF MA R	39061-0130
Multiple-use terminal (bolt M10)	2	400 A	1	3,3	SILAS SB NH2 40 EB70 ESF MA AO U2	39078-0130
With box clamp rm/re 300 mm ²	2	400 A	1	3,6	SILAS SB NH2 40 EB70 ESF MA AO R	39079-0130

For busbar system 40/12 according to DIN 43870, with mechanical fuse-monitoring, up to 690 V

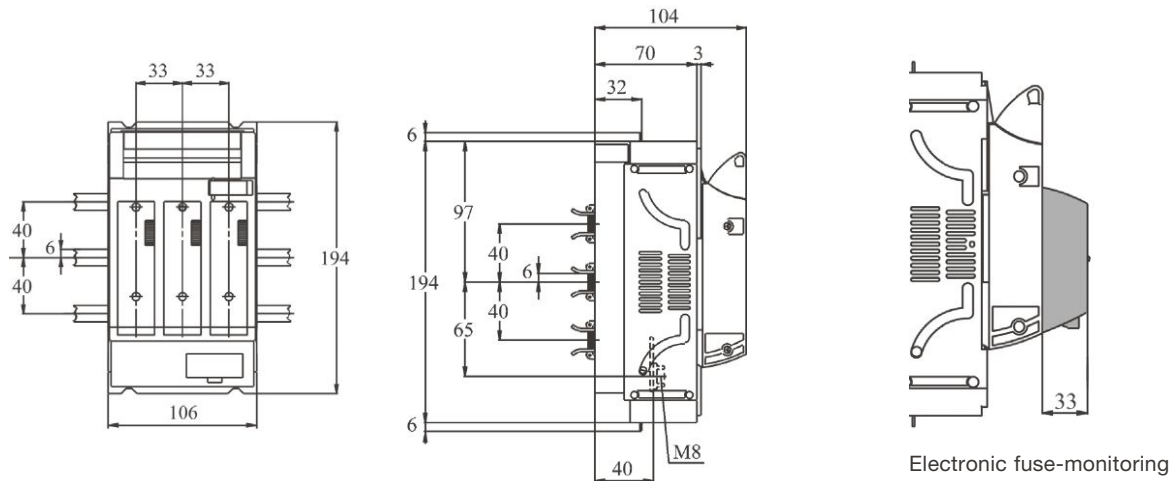
Description	Size	Amps I _n	PU	Weight in kg	Designation	Order no.
Multiple-use terminal (bolt M8)	00	160 A	1	1,2	SILAS SB NH00 40 EB70 SN U5	39021-0030
With box clamp rm/re 95 mm ²	00	160 A	1	1,2	SILAS SB NH00 40 EB70 SN R5	39020-0030
Multiple-use terminal (bolt M10)	1	250 A	1	2,6	SILAS SB NH1 40 EB70 SN U2	39060-0030
With box clamp rm/re 150 mm ²	1	250 A	1	2,6	SILAS SB NH1 40 EB70 SN R	39061-0030
Multiple-use terminal (bolt M10)	2	400 A	1	3,6	SILAS SB NH2 40 EB70 SN AO U2	39078-0030
With box clamp rm/re 300 mm ²	2	400 A	1	3,9	SILAS SB NH2 40 EB70 SN AO R	39079-0030

NH Fuse-Switches SILAS, horizontal design

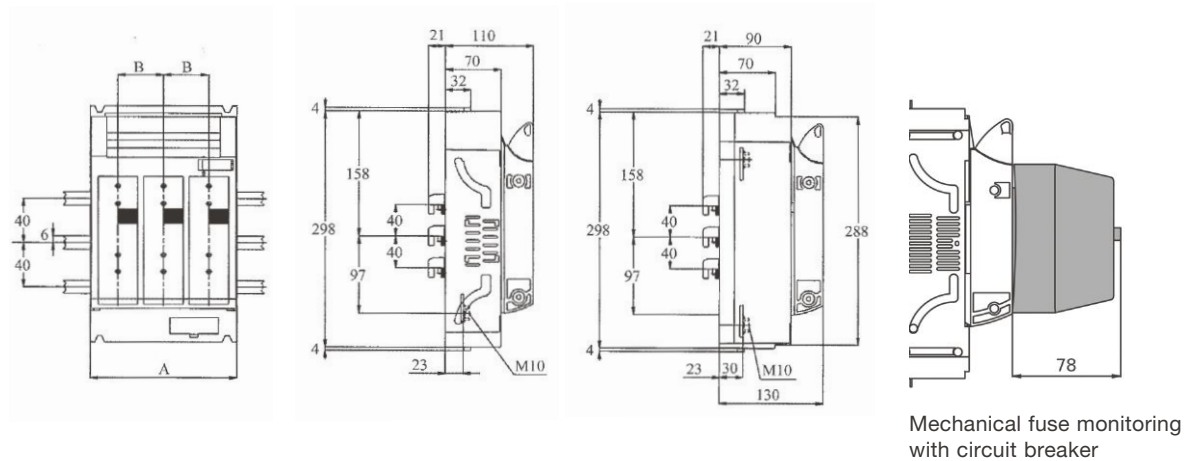
Busbar mounting Size 000



Busbar mounting Size 00



Busbar mounting Size 1 - 3



Size	A	B
1	184	57
2	210	65
3	250	80

Size 1

Size 2/3

Measurement and Communication

NH Fuse-Switches SILAS, horizontal design

For 60 mm busbar system, with electronic fuse-monitoring, up to 690 V AC

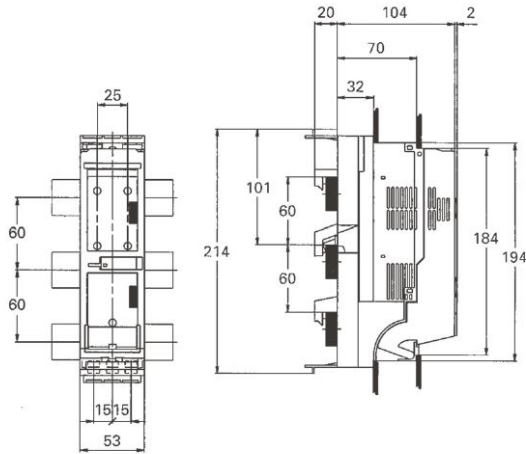
Description	Size	Amps I _n	PU	Weight in kg	Designation	Order no.
With box clamp rm/re 50 mm ² Bottom terminals	000	100 A	1	0,6	SILAS SB NH000 60 MA AU R4	39010-0137
With box clamp rm/re 50 mm ² Top terminals	000	100 A	1	0,6	SILAS SB NH000 60 MA AO R4	39011-0137
Multiple-use terminal (bolt M8)	00	160 A	1	0,9	SILAS SB NH00 60 EB70 ESF MA U5	39052-0130
With box clamp rm/re 95 mm ² Installation depth 70 mm	00	160 A	1	0,9	SILAS SB NH00 60 EB32 ESF MA R5	39040-0130
With box clamp rm/re 95 mm ² Installation depth 70 mm	00	160 A	1	0,9	SILAS SB NH00 60 EB70 ESF MA R5	39050-0130
Multiple-use terminal (bolt M10)	1	250 A	1	2,3	SILAS SB NH1 EB70 ESF70 MA U2	39064-0130
With box clamp rm/re 150 mm ²	1	250 A	1	2,3	SILAS SB NH1 60 EB70 ESF MA R	39068-0130
Multiple-use terminal (bolt M10)	2	400 A	1	3,3	SILAS SB NH2 60 EB70 ESF MA U2	39070-0130
With box clamp rm/re 300 mm ²	2	400 A	1	3,6	SILAS SB NH2 60 EB70 ESF MA R	39074-0130
Multiple-use terminal (bolt M10)	3	630 A	1	4,0	SILAS SB NH3 60 EB70 ESF MA U2	39080-0130
With box clamp rm/re 300 mm ²	3	630 A	1	4,1	SILAS SB NH3 60 EB70 ESF MA R	39084-0130

For 60 mm busbar system, with mechanical fuse-monitoring, up to 690 V

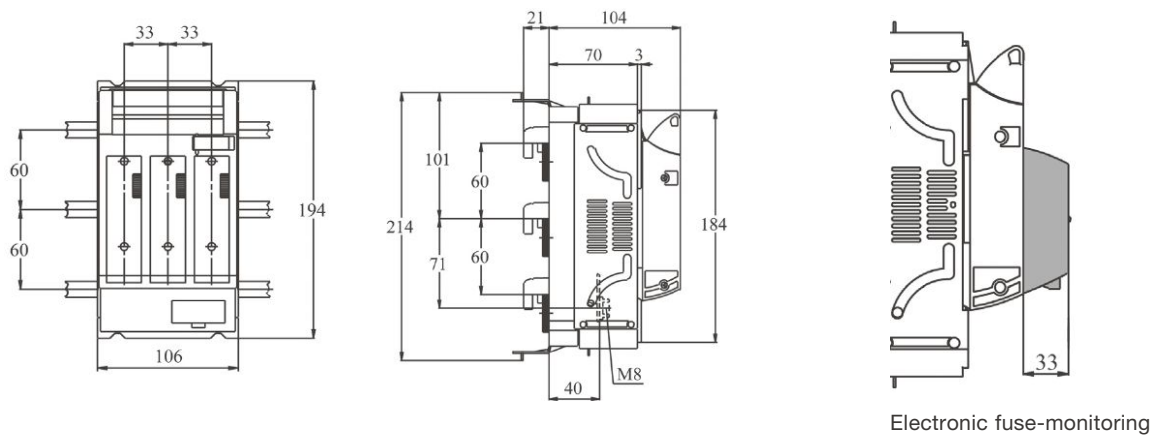
Description	Size	Amps I _n	PU	Weight in kg	Designation	Order no.
Multiple-use terminal (bolt M8)	00	160 A	1	1,2	SILAS SB NH00 60 EB70 SN U5	39052-0030
With box clamp rm/re 95 mm ² Installation depth 32 mm	00	160 A	1	1,2	SILAS SB NH00 60 EB32 SN R5	39040-0030
With box clamp rm/re 95 mm ² Installation depth 70 mm	00	160 A	1	1,2	SILAS SB NH00 60 EB70 SN R5	39050-0030
Multiple-use terminal (bolt M10)	1	250 A	1	2,6	SILAS SB NH1 60 EB70 SN U2	39064-0030
With box clamp rm/re 150 mm ²	1	250 A	1	2,6	SILAS SB NH1 60 EB70 SN R	39068-0030
Multiple-use terminal (bolt M10)	2	400 A	1	3,6	SILAS SB NH2 60 EB70 SN U2	39070-0030
With box clamp rm/re 300 mm ²	2	400 A	1	3,9	SILAS SB NH2 60 EB70 SN R	39074-0030
Multiple-use terminal (bolt M10)	3	630 A	1	4,3	SILAS SB NH3 60 EB70 SN U2	39080-0030
With box clamp rm/re 300 mm ²	3	630 A	1	4,5	SILAS SB NH3 60 EB70 SN R	39084-0030

NH Fuse-Switches SILAS, horizontal design

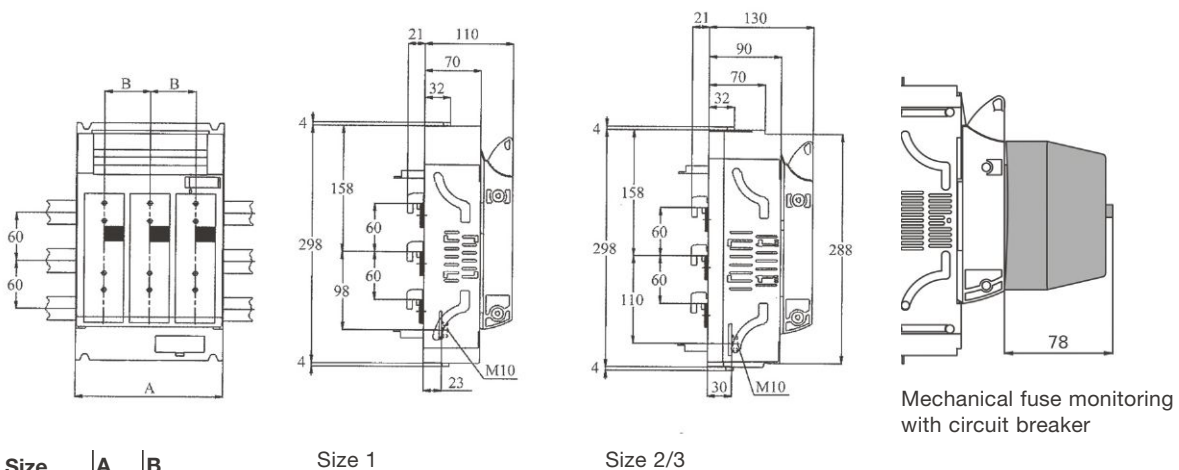
Busbar mounting Size 000



Busbar mounting Size 00



Busbar mounting Size 1 – 3



Size	A	B
1	184	57
2	210	65
3	250	80

Measurement and Communication

NH Fuse-Switches, 80 V and 550 V DC, 1-pole switching, for baseplate and busbar mounting



33107-0602

TPS fuse-switch for baseplate mounting with fuse-monitoring

Designation	Size	Amps	PU	Product designation	Order no.
Flat terminal M8	00	250	2	U NH-LATR TPS 00/250 1P SM G4G4	33107-0252
Flat terminal M12	00	600	2	U NH-LATR TPS 00/600 1P SM L6L6	33107-0602
Flat terminal M16	2	1200	1	U NH-LATR TPS 2/1200 1P SN L8L8	33460-0010
Flat terminal 2 x M12	2	1600	1	U NH-LATR TPS 2/1600 1P SN L6L6	33560-0010



33111-0252

TPS fuse-switch for busbar mounting with fuse-monitoring

Designation	Size	Amps	PU	Product designation	Order no.
Flat terminal M8	00	250	2	U NH-LATR TPS 00/250 1P SB SM G4	33111-0252
Flat terminal M12	00	600	2	U NH-LATR TPS 00/600 1P SB SM L6	33111-0602
Flat terminal M16	2	1200	1	U NH-LATR TPS 2/1200 1P SB SN L8	33470-0010
Flat terminal 2 x M12	2	1600	1	Flachanschluss 2x M12	33570-0010

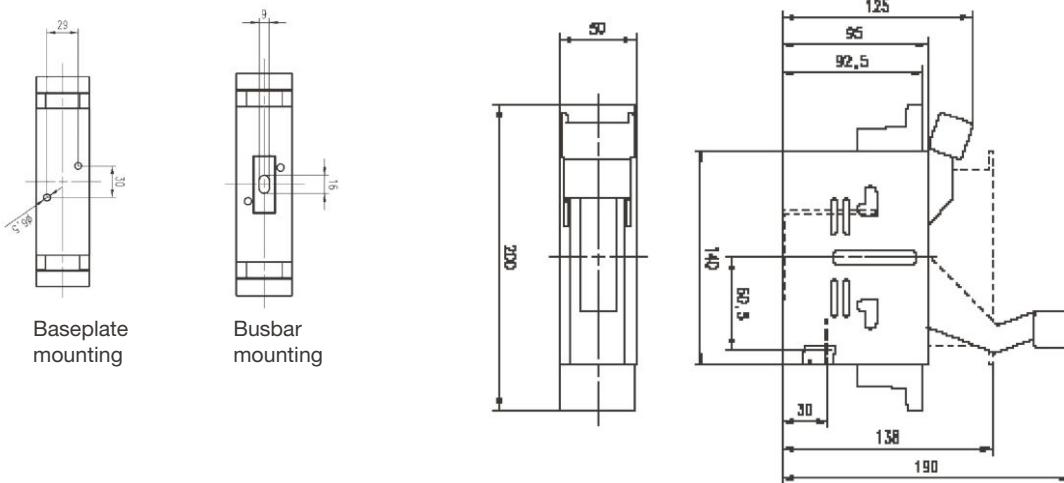
Cover with integrated fuse-monitoring for NH fuse-switch 550 V DC

Designation	Size	PU	Product designation	Order no.
Cover with fuse-monitoring	1	1	DECKEL LA-LEI 1 SU	83359-0100
Cover with fuse-monitoring	2	1	DECKEL LA-LEI 2 SU	83360-0100
Cover with fuse-monitoring	3	1	DECKEL LA-LEI 3 SU	83361-0100

NH Fuse-Switches for DC applications up to 80 V, TPS series

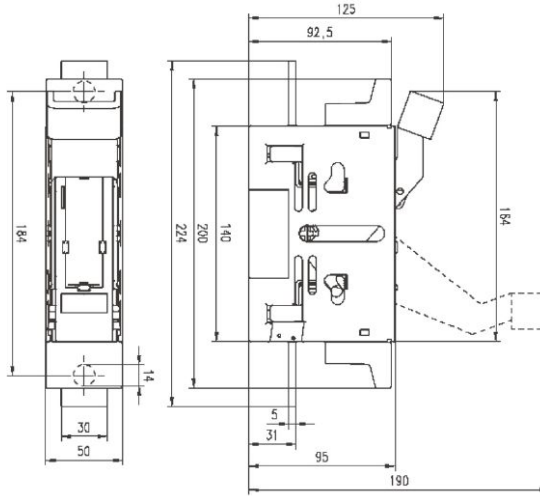
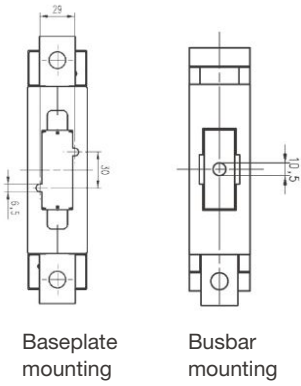
TPS Fuse-Switches

TPS 00/250

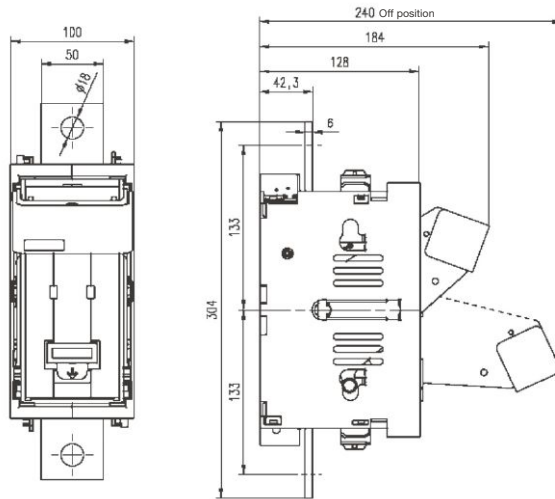
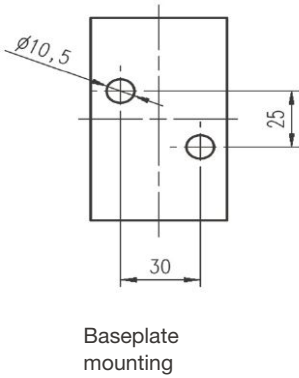


NH Fuse-Switches for DC applications up to 80 V, TPS series

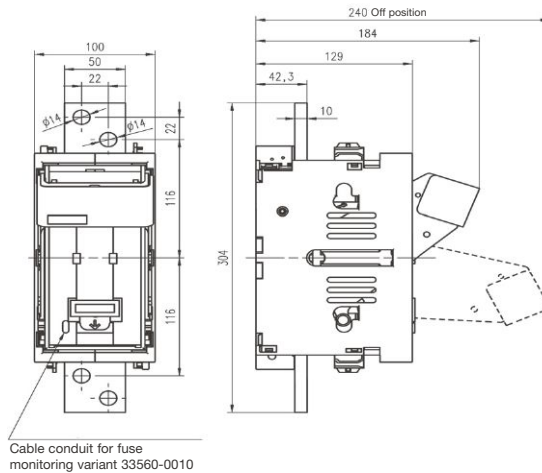
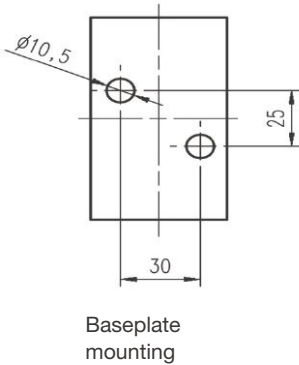
TPS 00/600



TPS 2/1200



TPS 2/1600



Measurement and Communication

NH Fuse-Switches, vertical design, with fuse-monitoring

► For further accessories see page 331 and following, for matching current transformers see page 330



38054-0030

E³ NH Fuse-Switches, vertical design, size 00/60 and 00/100, 3-pole switching, 160 A for 60 and 100 mm busbar systems, with electronic fuse-monitoring

Features:

- Busbar spacing 60 and 100 mm
- System in ready-state: LED flashes green
- System in fault state: LED flashes red

Designation	Size	Amps	PU	Product designation	Order no.
Size 00/60, 3-pole switching, with multiple-use terminal (screw M8), hook-contacting	00/60	160	1	E ³ NH-LA-LEI 00/60 3P ESÜ MA U5	38044-0030
Size 00/60, 3-pole switching, with box clamp 95 mm ² , hook-contacting	00/60	160	1	E ³ NH-La-Lei 00/60 3P ESÜ Ma R5	38046-0030
Size 00/100, 3-pole switching, with multiple-use terminal (screw M8), hook-contacting	00/100	160	1	E ³ NH-La-Lei 00/100 3P Bh ESÜ Ma U5	38054-0030
Size 00/100, 3-pole switching, with box clamp 95 mm ² , hook-contacting	00/100	160	1	E ³ NH-La-Lei 00/100 3P Bh ESÜ Ma R5	38056-0030



38016-0040

E³ NH Fuse-Switches, vertical design, size 1 – 3, 3-pole switching, for 185 mm busbar spacing, with electronic fuse-monitoring

Features:

- integrated wiring inside switching cover

Designation	Size	Amps	PU	Product designation	Order no.
With multiple-use terminal (bolt M12) with 1 elec. fuse mon. (ESÜ)		250	1	E ³ NH-LA-LEI 1 3P ESÜ MA U6	38016-0040
With multiple-use terminal (bolt M12) with 2 elec. fuse mon. (ESÜ)		400	1	E ³ NH-LA-LEI 2 3P ESÜ MA U6	38026-0040
With multiple-use terminal (bolt M12) with 3 elec. fuse mon. (ESÜ)		630	1	E ³ NH-LA-LEI 3 3P ESÜ MA U6	38036-0040

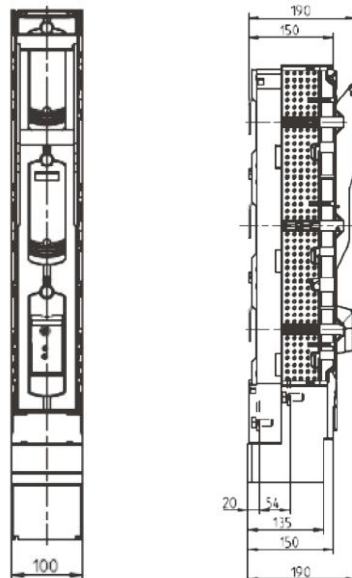
E³ NH Fuse-Switches, vertical design, with electronic fuse-monitoring

Technical data

Article designation	Size	Amps	Order no.
E ³ NH-LA-LEI 1 3P ESÜ2 MA U6	NH 1	250	38016-0640
E ³ NH-LA-LEI 2 3P ESÜ2 MA U6	NH 2	400	38026-0640
E ³ NH-LA-LEI 3 3P ESÜ2 MA U6	NH 3	630	38036-0640

For NH Fuse-Switches acc. to VDE 0660 T-107 / IEC/EN 60947-1/-3

Suitable for NH fuse-links acc. to DIN 43210/1				Size NH1	Size NH2	Size NH3
Rated operating current	400 V	I_e	A	250	400	630
	500 V			250	400	630
	690 V			200	315	500
Conventional free-air thermic current		I_{th}	A	250	400	630
Rated operating voltage		U_e	V	AC 690	AC 690	AC 690
Rated insulation voltage		U_i	V	1000	1000	1000
Rated impulse withstand-current		U_{imp}	kV	8	8	8
Conditional rated short-circuit current (when protected by NH fuse-links)	400 V		kA_{eff}	120	120	120
	500 V			120	120	120
	690 V			100	100	100
Utilization category VDE 0660 T107/EN/IEC 60947-3	400 V			AC-23B	AC-23B	AC-23B
	500 V			AC-22B	AC-22B	AC-22B
	690 V			AC-21B	AC-21B	AC-21B
Mechanical durability		Cycles		1400	1400	1400
Electrical durability		Cycles		200	200	200
Permissible ambient temperature		°C		-25 to +55 °C	-25 to +55 °C	-25 to +55 °C
Degree of protection DIN/EN 60529/VDE 0470 T1		IP		30	30	30
Max. permissible power dissipation of NH fuse-link		P_v	W	23	34	48
Total power dissipation (without fuse-link)		P_v	W	27	56	111
Pollution degree		-	-	3	3	3
Overvoltage category		-	-	IV	IV	IV
Rated frequency		-	Hz	50-60	50-60	50-60
Weight without NH fuse-link		-	kg	4,8	5,1	5,7

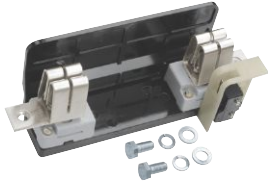


Technical data of electronic fuse-monitoring devices

Rated operational voltage U_e	AC 400 V – AC 690 V 50/60 Hz
Rated isolation voltage U_i	1000 V
Rated impulse withstand-current U_{imp}	8 kV
Conditional rated short-circuit current (when protected by NH fuse-links)	50 kA
Permissible ambient temperature	-20 °C – +55 °C
Delay	1 - 1,5 s
Function	Differential voltage > 30 V
Indicators	Operating voltage green LED flashes Fuse tripped: red LED flashes
Alert output	Relay with NC and NO contacts. Reliable isolation acc. to EN 50178
Operating voltage/current-alert output	

NH Fuse-Bases with fuse-monitoring

► Technical data, page 356



33041-0010

NH Fuse-Bases of size 3L, for base-plate mounting with striker for fuse-monitoring, 1500 V AC

Designation	Size	Amps	PU	Product designation	Order no.
Clinch nut M12, with striker	3L	425	1	A NH-UNT 3L 1500V MS G6G6	33041-0010
Clinch nut M16, with striker	3L	630	1	NH-UNT 3L 1500V MS G8G8	33042-0010



33087-0010

Striker bases

Designation	PU	Product designation	Order no.
690 V	5	SIG-UNT 690V MS G2	33087-0010
1000 V	5	A SIG-UNT 1000V MS G2	33088-0010
1200 V	4	SIG-UNT 1200V MS G2	33089-0010
1500 V	4	SIG-UNT 1500V MS G2	33090-0010
2000 V	4	SIG-UNT 2000V MS G2	33091-0010



36031-0020

Strikers

Designation	PU	Product designation	Order no.
690 V / NS 3001	12	SIGNALMELDER 690V	36000-0010
1000 V / NS 3002	12	A SIGNALMELDER 1000V	36001-0010
2000 V / NS 3005	16	SIGNALMELDER 2000V	36002-0010
1500 V / NS 3003	15	SIGNALMELDER 1500V	36003-0010
1200 V / NS 3015	25	SIGNALMELDER 1200V	36007-0010
Striker 690 V / >=2 V	12	ELEGARD-EINSATZ >=2V	36031-0020



36030-0010

Elegard

Designation	PU	Product designation	Order no.
Holder	4	ELEGARD-HALTER	36030-0000
Striker (elegard striker unit) for fuse-monitoring, size 1 – 3	12	ELEGARD-EINSATZ	36031-0010
Striker 690 V / >=2 V	12	ELEGARD-EINSATZ >=2V	36031-0020

Accessories for switch position indication



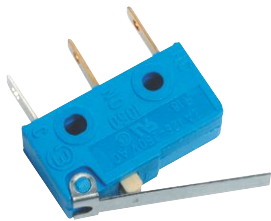
36107-0010

Microswitch for switch position indication for NH Fuse-Switches

Features:

- For switch position indication

Designation	Size	PU	Product designation	Order no.
Microswitch for switch position indication	000	1	MIKROSCHALTER FÜR SCHALTZUSTANDSANZEIGE	36107-0010
Microswitch for switch position indication	2	1	MIKROSCHALTER FÜR SCHALTZUSTANDSA. TPS 2	36887-0010



36959-0060

Microswitch for switch position indication for NH Fuse-Switches

Features:

- For switch position indication

Designation	Size	PU	Product designation	Order no.
Microswitch, narrow variant	000	1	MIKROSCHALTER GR.000-00 SILAS	36959-0010
Microswitch	1-3	1	MIKROSCHALTER GR.1-3 SILAS	36959-0060



36335-0010

Microswitch for position indication for E³ NH Fuse-Switches, size 00

Features:

- NC-contact or NO-contact microswitch
- 2 A / 250 V AC plug-in tab 2.8 x 0.5 mm

Use:

- 2 microswitches for 3-pole switching devices

Designation	Size	PU	Product designation	Order no.
Microswitch for switch position indication, 1 NC contact or 1 NO contact, 1 kit = 6 pieces	00/60 00/185	6	Mikrosch.Schaltstellng. E³00 (1Set=6St)	36335-0010



36375-0010

Microswitch for position indication for E³ NH Fuse-Switches, size 1 - 3

Features:

- Microswitch with NC contact or NO contact

Use:

- For 1-pole switching: 3 microswitches

Designation	PU	Product designation	Order no.
Microswitch for switch position indication, 1 NC contact or 1 NO contact, 1 set = 6 pieces	6	Mikrosch.Schaltstellng. E³1-3 (1Set=6St)	36375-0010

Measurement and Communication

Accessories for metering devices with dial indicator

► Technical data, page 358



81152-0100

Power metering

Designation	Size	Amps	PU	Product designation	Order no.
Locking ring			1	RING 30X1,2 DIN984	25304-0100
Current converter NH fuse-link 400 V	2	100	3	NH-SI 2 100A GL AG AC400V WA LE	35067-0010
Current converter NH fuse-link 400 V	2	125	3	NH-SI 2 125A GL AG AC400V WA LE	35067-0020
Current converter NH fuse-link 400 V	2	160	3	NH-SI 2 160A GL AG AC400V WA LE	35067-0030
Current converter NH fuse-link 400 V	2	200	3	NH-SI 2 200A GL AG AC400V WA LE	35067-0040
Current converter NH fuse-link 400 V	2	224	3	NH-SI 2 224A GL AG AC400V WA LE	35067-0050
Current converter NH fuse-link 400 V	2	250	3	NH-SI 2 250A GL AG AC400V WA LE	35067-0060
Current converter NH fuse-link 400 V	2	315	3	NH-SI 2 315A GL AG AC400V WA LE	35067-0070
Current converter NH fuse-link 400 V	2	355	3	NH-SI 2 355A GL AG AC400V WA LE	35067-0080
Current converter NH fuse-link 400 V	2	400	3	NH-SI 2 400A GL AG AC400V WA LE	35067-0090
Current converter NH fuse-link 400 V	3	630	3	NH-SI 3 630A GL AC400V WA LE	35190-0060
Summary current transformer 300-600/5, for devices with 115 mm width only	3		2	AUFSTW. NH 6.3 600-300/5A 10-5VA KL3	81153-0100
Maximum current meter, measurement range 100 – 200/5	2		1	MAX.-STROMMESSER 100-200/5A	85153-0100
Metering case A			1	KOFFER F. MESSWANDLER-SI. GRÖSSE A	85196-0100
Metering case B			1	KOFFER F. MESSWANDLER-SI. GRÖSSE B	85263-0100
Summary current transformer 200 – 400/5	2		1	AUFSTW. NH 6.2 400-200/5A 5-2,5VA KL3	81142-0100
Summary current transformer 100 – 200/5	2		1	AUFSTW. NH 6.2 200-100/5A 2,5-1,25VA KL3	81152-0100
Maximum current meter, measurement range 200 – 400/5	2		1	MAX.-STROMMESSER 200-400/5A	85094-0100
Maximum current meter, measurement range 200 – 400/1	2		1	MAX.-STROMMESSER 200-400/1A	85094-0300
Maximum current meter, measurement range 300 – 600/5	3		1	MAX.-STROMMESSER 300-600/5A	85100-0100

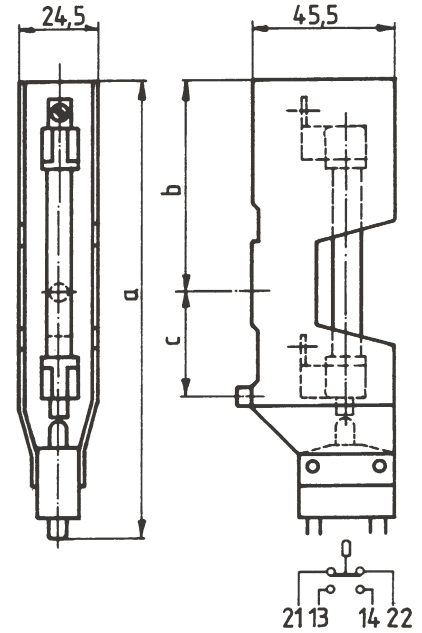
NH Accessories

Fuse-monitoring

Fuse-monitoring devices are used for example in power converter systems in parallel with power transformer fuses or in AC and DC power systems.

Striker bases

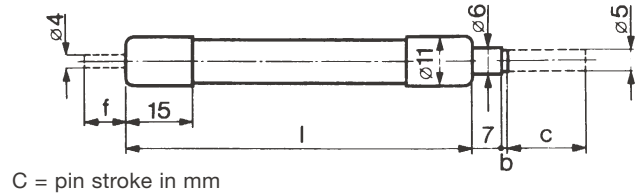
Striker bases are fitted with auxiliary switches
 1 NC contact and 1 NO contact (2 NO contacts upon request)
 $U_e = 380 \text{ V AC} / 125 \text{ V DC}$ (under resistive load)
 $I_e = 10 \text{ A AC} / 0.5 \text{ A DC}$ (under resistive load)
 Connection by 6.3-mm tabs acc. to DIN 46248.



Designation	PU	Dimensions			Order no.
		a	b	c	
Striker base 690 V	5	129	42	40	33087-0010
Striker base 1000 V	5	148	61	40	33088-0010
Striker base 1200 V	4	213	72,5	70	33089-0010
Striker base 1500 V	4	194	72,5	70	33090-0010
Striker base 2000 V	4	233	107,5	70	33091-0010

Strikers

Strikers are tripped together with the NH fuse connected in parallel. A striker in itself does not represent a fuse, i.e. it must always be connected in parallel with an NH fuse-link.



Designation	PU	Minimum sensitivity		R	Dimensions				Order no.
		V	A		Ω	b	c	f	
Striker 690 V	12	9	2,5	2	1	18	-	60±1	36000-0010
Striker w. elegend striker unit	12	9							36031-0010
Striker 690 V ≥ 2 V	12	2	7	0,3	1	18	-	60±1	36031-0020
Striker 1000 V	12	10	3	2,4	1	18	-	79±1	36001-0010
Striker 1200 V	30	48	2	18	36	17	-	100±3	36006-0010
Striker 1200 V	25	48	2	18	25	17	-	100±3	36007-0010
Striker 1500 V	15	48	2	18	8	20	-	116±1	36003-0010
Striker 1500 V with pin	25	48	2	18	8	20	11,5	116±1	36004-0010
Striker 2000 V	16	55	2,5	20	8	20	-	150±1	36002-0010

Measurement and Communication

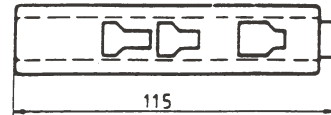
NH Accessories

elegard

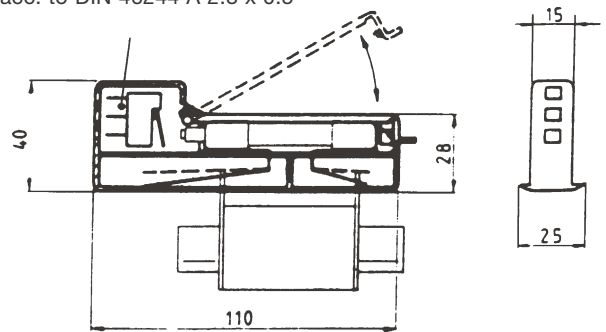
elegard fuse-monitoring is compatible with all standard NH fuse-links with non-insulated gripping lugs from size 00 to 4. A replaceable elegard striker unit is electrically connected to the live gripping lugs of the NH fuse-link via the spring contacts of the elegard holder. The striker unit sits on the NH fuse-link. If this is tripped, the elegard striker unit releases a pin acting on a microswitch integrated in the elegard holder.

Designation	PU	Order no.
elegard holder	4	36030-0000
elegard striker unit 690 V / > 9 V	12	36031-0010
elegard striker unit 690 V / ≥ 2 V	12	36031-0020

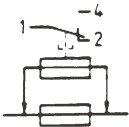
Microswitch AC 250 V 5 A



Tab acc. to DIN 46244 A 2.8 x 0.5



Only replace striker unit after the elegard holder has been removed



NH Accessories

Metering case for transport

EFEN metering cases are available into two sizes.

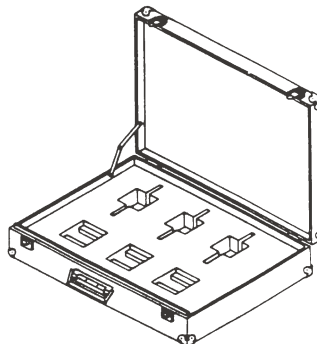
Size A fits of the following equipment:

- 3 current-transformer NH fuse-links size 2
- 3 summary current transformers
- 3 maximum-current meters
- 3 locking rings

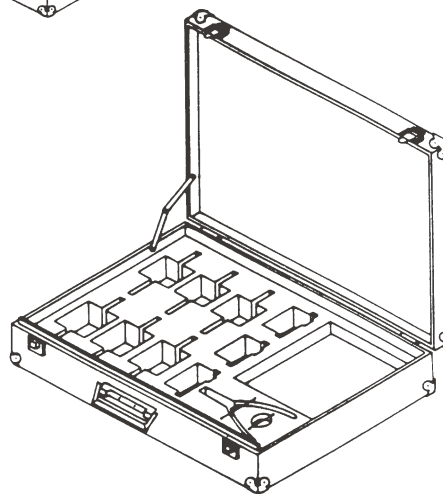
Size B fits the following equipment:

- 6 current-transformer NH fuse-links size 2
- 3 summary current transformers
- 3 maximum-current meters
- 1 circlip pliers
- 6 locking rings
- 1 NH fuse handle with cuff

Size A



Size B



Designation	PU	Order no.
Metering case size A	1	85196-0100
Metering case size B	1	85263-0100

NH Accessories

Current metering

EFEN offers a current metering set for the temporary or continuous metering of load currents. The set comprises:

- Maximum-current meter
- Summary current transformer
- Current-transformer NH fuse-link

In its general dimensions, the combination of current-transformer NH fuse-link and summary current transformer complies with DIN VDE 0636/T2. It fits standard NH fuse bases, NH fuse-rails and EFEN NH vertical fuse-switches.

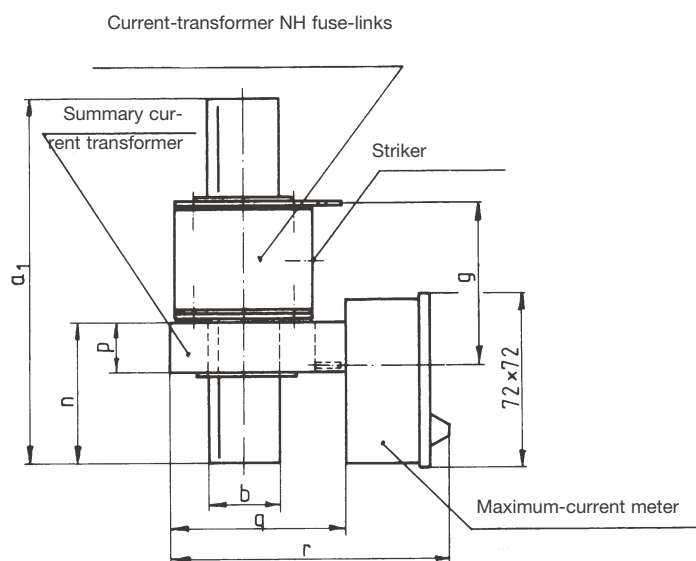
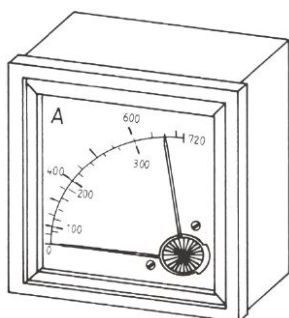
The electric properties of the NH fuse-links comply with VDE 0636/T2 and IEC 60 269-2.

The summary current transformer has two pairs of sockets for the metering ranges required. Since the no-load voltage is only 3 V, the summary current transformer can be used in open circuits.

The maximum-current meter has two dials for the corresponding metering ranges.

The response time is 8 minutes.

The overload protection covers 2 times the rated current.



Size	a ₁	b	g	n	p	q	r
2	150	30	66	59	20	74	123
3	152	32	66	64	24	88	131

Designation	Size	Metering range	PU	Weight	Order no.
Maximum-current meter	2	200-400/5 A	1	0,100	85094-0100
Maximum-current meter	2	200-400/1 A	1	0,100	85094-0300
Maximum-current meter	2	100-200/5 A	1	0,100	85153-0100
Maximum-current meter	3	300-600/5 A	1	0,100	85100-0100
Summary current transformer	2	200-400/5 A	1	0,100	81142-0100
Summary current transformer	2	100-200/5 A	1	0,100	81152-0100
Summary current transformer for devices 115 mm wide	3	300-600/5 A	1	0,100	81153-0100
Current-transformer NH fuse-link 400 V	2	100 A	1	0,526	35067-0010
Current-transformer NH fuse-link 400 V	2	125 A	1	0,530	35067-0020
Current-transformer NH fuse-link 400 V	2	160 A	1	0,532	35067-0030
Current-transformer NH fuse-link 400 V	2	200 A	1	0,532	35067-0040
Current-transformer NH fuse-link 400 V	2	224 A	1	0,532	35067-0050
Current-transformer NH fuse-link 400 V	2	250 A	1	0,529	35067-0060
Current-transformer NH fuse-link 400 V	2	315 A	1	0,526	35067-0070
Current-transformer NH fuse-link 400 V	2	(355) A	1	0,538	35067-0080
Current-transformer NH fuse-link 400 V	2	400 A	1	0,535	35067-0090
Current-transformer NH fuse-link 400 V	3	630 A	1	0,400	35190-0060
Locking rings			1	0,100	25304-0100



Measurement and Communication

Metering devices

Current grid values of your power distribution system at a glance – at all times. Multifunctional metering devices by EFEN have an important share in improving energy efficiency and system availability in smart distribution systems.

System

Permits the metering and monitoring of current operating and grid values in power distribution systems. In addition to power metering, harmonics analysis and visualization, multifunctional metering devices are also able to save measured data. These are transmitted to superordinate power management systems via optional interface modules.

Features

The high-quality measuring technology of the device facilitates 4-quadrant power metering. In this way, metering the feeding-in of power generated by wind power or solar power systems is possible. All electric parameters are visualized via an LCD.



Metering devices

Multifunctional metering devices page 362

Maximum-current meters page 362

Technical data page 363

Metering on site

Installation directly on the vertical-design fuse-switch or in the front panel



Multifunctional metering device

Power metering, visualization, harmonics analysis, data storage, power management



Extension Modules

Various interfaces such as JBUS/MODBUS, Profibus, Ethernet, data storage, temperature, analog



Maximum-current meter

Measurement range 100 to 600 A



Multifunctional metering devices – EM series



36360-0010

Multifunctional metering device EM 10

Features:

- For measurement, power metering and communication
- Auxiliary voltage supply U_s 110 – 160 V AC
- Fits device carrier 36422-0010

Designation	PU	Product designation	Order no.
Multifunctional metering device EM 10 96 x 96 x 60 mm Aux. 110 – 400 V AC	1	A20/EM10 96x96x60 AUX110-400VAC 48250200	36360-0010
Control Vision software	1	Software EM10/EM30 Control Vision	36364-0010
IP65 protection cover	1	Schutzabdeckung IP65 EM10/EM30	36365-0010



36361-0010

Plug-in module for EM 10

Features:

- Fits multi-measurement device EM 10
- Mounts to backside
- Installation depth of module is 20 mm

Designation	PU	Product designation	Order no.
Plug-in module EM 10, pulsed output	1	Modul EM10 Impulsausgang	36361-0010
Plug-in module EM 10, communication	1	Modul EM10 JBUS/MODBUS	36361-0020



36362-0010

Multifunctional metering device EM 30

Features:

- Multifunctional measuring
- Power metering
- Visualization
- Harmonic analysis
- Monitoring and controlling
- Energy management
- Grid quality
- Database

Designation	PU	Product designation	Order no.
Multifunctional metering device EM 30 96 x 96 x 60 mm Aux. 110 – 400 V AC	1	A40/EM30 96x96x60 AUX110-400VAC 48250201	36362-0010
Multifunctional metering device EM 30 96 x 96 x 60 mm Aux. 12 – 48 V DC	1	EM30 96x96x60 AUX 12-48V DC	36362-0020
Control Vision software	1	Software EM10/EM30 Control Vision	36364-0010
IP65 protection cover	1	Schutzabdeckung IP65 EM10/EM30	36365-0010



36363-0010

Plug-in module for EM 30

Features:

- Fits multi-measurement device EM 30
- Mounts to backside
- Installation depth of module is 20 mm

Designation	PU	Product designation	Order no.
Plug-in module EM 30, pulsed output	1	Modul EM30 Impulsausgang	36363-0010
Plug-in module EM 30, JBUS/MODBUS	1	Modul EM30 JBUS/MODBUS	36363-0030
Plug-in module EM 30, Profibus	1	Modul EM30 Profibus	36363-0040
Plug-in module EM 30, monitoring/controlling	1	Modul EM30 Kontrolle/Steuerung	36363-0050
Plug-in module EM 30, Ethernet	1	Modul EM30 Ethernet	36363-0060
Plug-in module EM 30, Ethernet RS485 Gateway	1	Modul EM30 Ethernet RS485 Gateway	36363-0070
Plug-in module EM 30, memory module	1	Modul EM30 Speichermodul	36363-0080
Plug-in module EM 30, temperature indicator	1	Modul EM30 Temperatur	36363-0090
Plug-in module EM 30, analog output	1	Modul EM30 Analog Ausgang	36363-0100

EM multifunctional metering devices

Technical data

	EM10	EM30
Current metering		
Current (3I, In)	•	•
Phase-to-phase and phase-to-neutral voltage (3U, 3V)	•	•
Frequency (F)	•	•
Active, reactive, apparent and total power (+ΣP, +ΣQ, ΣS)	•	
Active, reactive, app. power p. phase and total power (±3P, ±3Q, 3S, ±ΣP, ±ΣQ, ΣS)		•
Total power factor (ΣPF)	•	
Power factor per phase and summary power (3PFL/C, ΣPFL/C)		•
Metering of maximum and average values		
Maximum current (3I, In)	•	•
Phase-to-phase and phase-to-neutral voltage and frequency (3U, 3V, F)		•
Total active power (ΣP+)	•	
Total active, reactive and apparent power (±ΣP, ±ΣQ, ΣS)		•
Metering of power quality		
Total harmonic distortion for integrated current and voltage up to 31st level (THD 3I, 3V, 3U)	•	
Total harmonic distortion for integrated current and voltage up to 51st level (THD 3I, In, 3V, 3U)		•
Meters		
Two-quadrant active and reactive power (+kWh, +kvarh)	•	
Four-quadrant active, reactive and apparent power (±kWh, ±kvarh, kVAh)		•
Operating hours counter, configurable to voltage or current		•
Metering type		
Grid type (3 P, 3 P+N and single-phase)	NS	NS/HS
TRMS values up to harmonics	51	
Metering accuracy		
Current and voltage	0,2 %	
Power	0,5 %	
Frequency	0,1 %	
Active power	Class 0.5S IEC 62053-22	
Reactive power	Class 2 IEC 62053-23	
Refresh period		
Display	1 s	
Current inputs		
Primary side of current transformer		
Secondary side of current transformer	5 A	5 A and 1 A
Metering range	5 mA to 6 A	10 mA to 20 A
Permissible overload	50 A - 1 s	
Consumption	< 0,6 VA	< 0,1 VA
Connection of current transformer secondary side to earth	yes	
Voltage inputs		
Direct metering	50 to 500 V AC	18 to 700 V AC
Metering via current transformers (secondary side 60, 100, 110, 115, 120, 173 and 190 V)	Not available	up to 500 kV AC
Frequency	45 to 65 Hz	
Auxiliary power supply		
standard	110 to 400 V AC ±10 % / 120 to 350 V DC ±20 %	
Please inquire	Not available	12 to 48 V DC -6 / +20 % (not UL)
Inputs		
Type	Not available	Optocoupler (10 to 30 V DC)
Monitoring and drive output		
Type	Not available	Relay (230 V AC – 5 A – 1150 VA)
Pulsed outputs		
Type	Relay (100 V DC – 0.5 A – 10 VA)	
Memory module		
Memory capacity	–	1024 kbits (512 Kb)



IN THE LINE OF POWER



Efficient Distribution

When it comes to reliable power supply, replacing nuclear power by renewable energies is one of the greatest challenges. To this end, EFEN offers consistent solutions for safety interfaces from power generation to power storage and to the selective control of consumers.



Reliable Protection

Reliable protection of people and assets is a key requirement of any power distribution system. The comprehensive solutions from EFEN ensure maximum safety in all areas of power supply, infrastructure and industry.



Smart Control

Higher energy efficiency reduces peak loads and lowers energy costs. Early-warning systems reduce minimal unplanned plant downtimes to the minimum. Smart solutions from EFEN ensure reliable communication and maximum availability of power distribution systems.

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