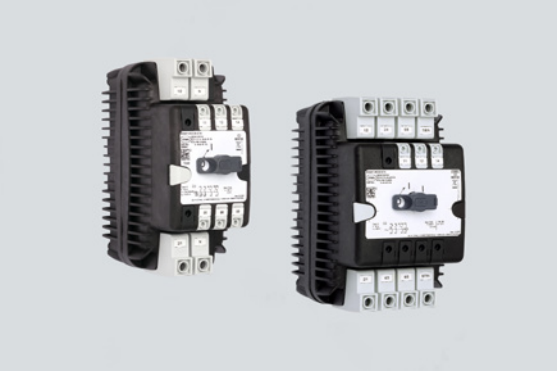


- Modular component for residual current monitoring
- Can be used for pulsating direct currents and alternating currents
- Fault protection, protection of persons and protection against electrical fires caused by residual currents to earth

MY R. STAHL **8530B**

The R. STAHL Series 8530 residual current circuit breaker is a component for residual current monitoring and switches off systems in the event of residual currents – for reliable protection of persons, even in hazardous areas. It is suitable for pulsating direct currents and alternating currents and is designed for rated operational currents of 16, 25, 40, or 63 A and rated residual currents of 10, 30, 100, 300 and 500 mA. The residual current tripping variants A, AS, AP-R, B, BS, B+ and F, as well as an A110 V version, are available.

	IECEx / ATEX					
Zone	0	1	2	20	21	22
Installation in		•	•			

Selection Table

Product variant	with auxiliary contacts			
No. of poles	1-pole + N			
1st auxiliary function	Auxiliary contact 1 change-over contact + fault signal contact 1 change-over contact			
1st auxiliary function for AC rated voltage	230 V			
1st auxiliary function for rated current max.	2 A			
Rated operational current	Rated residual current	Product Type	Art. No.	Weight
16 A	0.01 A	8530/1-RCCB-STAA1N-10-16-500-3	269646	1.2 kg
25 A	0.1 A	8530/1-RCCB-STAA1N-100-25-500-3	299088	1.2 kg
40 A	0.03 A	8530/1-RCCB-STAA1N-30-40-500-3	269647	1.2 kg
	0.1 A	8530/1-RCCB-STAA1N-100-40-500-3	269648	1.2 kg
	0.3 A	8530/1-RCCB-STAA1N-300-40-500-3	269649	1.2 kg
	0.5 A	8530/1-RCCB-STAA1N-500-40-500-3	269650	1.2 kg
63 A	0.03 A	8530/1-RCCB-STAA1N-30-63-500-3	298046	1.2 kg
Product variant	with auxiliary contacts			
No. of poles	3-pole + N			
1st auxiliary function	Fault signal contact 1 change-over contact			
1st auxiliary function for AC rated voltage	230 V			
1st auxiliary function for rated current max.	2 A			
Rated operational current	Rated residual current	Product Type	Art. No.	Weight
25 A	0.03 A	8530/1-RCCB-STAA3N-30-25-300-4	293689	1.8 kg
	0.3 A	8530/1-RCCB-STAA3N-300-25-300-4	293693	1.8 kg
40 A	0.03 A	8530/1-RCCB-STAA3N-30-40-300-4	293690	1.8 kg
	0.1 A	8530/1-RCCB-STAA3N-100-40-300-4	293692	1.8 kg
	0.3 A	8530/1-RCCB-STAA3N-300-40-300-4	293694	1.8 kg
	0.5 A	8530/1-RCCB-STAA3N-500-40-300-4	293696	1.8 kg

RCCB residual current circuit breakers
Series 8530

Selection Table

Product variant	with auxiliary contacts
No. of poles	3-pole + N
1st auxiliary function	Fault signal contact 1 change-over contact
1st auxiliary function for AC rated voltage	230 V
1st auxiliary function for rated current max.	2 A

Rated operational current	Rated residual current	Product Type	Art. No.	Weight
63 A	0.03 A	8530/1-RCCB-STAA3N-30-63-300-4	293691	1.8 kg
	0.3 A	8530/1-RCCB-STAA3N-300-63-300-4	293695	1.8 kg

Product variant	without auxiliary contacts
No. of poles	3-pole + N
1st auxiliary function	without
1st auxiliary function for AC rated voltage	-
1st auxiliary function for rated current max.	-

Rated operational current	Rated residual current	Product Type	Art. No.	Weight
25 A	0.03 A	8530/1-RCCB-STAA3N-30-25-000-4	293681	1.7 kg
	0.3 A	8530/1-RCCB-STAA3N-300-25-000-4	293685	1.7 kg
40 A	0.03 A	8530/1-RCCB-STAA3N-30-40-000-4	293682	1.7 kg
	0.1 A	8530/1-RCCB-STAA3N-100-40-000-4	293684	1.7 kg
	0.3 A	8530/1-RCCB-STAA3N-300-40-000-4	293686	1.7 kg
	0.5 A	8530/1-RCCB-STAA3N-500-40-000-4	293688	1.7 kg
63 A	0.03 A	8530/1-RCCB-STAA3N-30-63-000-4	293683	1.7 kg
	0.1 A	8530/1-RCCB-STAA3N-100-63-000-4	316583	1.8 kg
	0.3 A	8530/1-RCCB-STAA3N-300-63-000-4	293687	1.7 kg

For additional variants, e.g. auxiliary and signal contacts, please refer to the following type code.

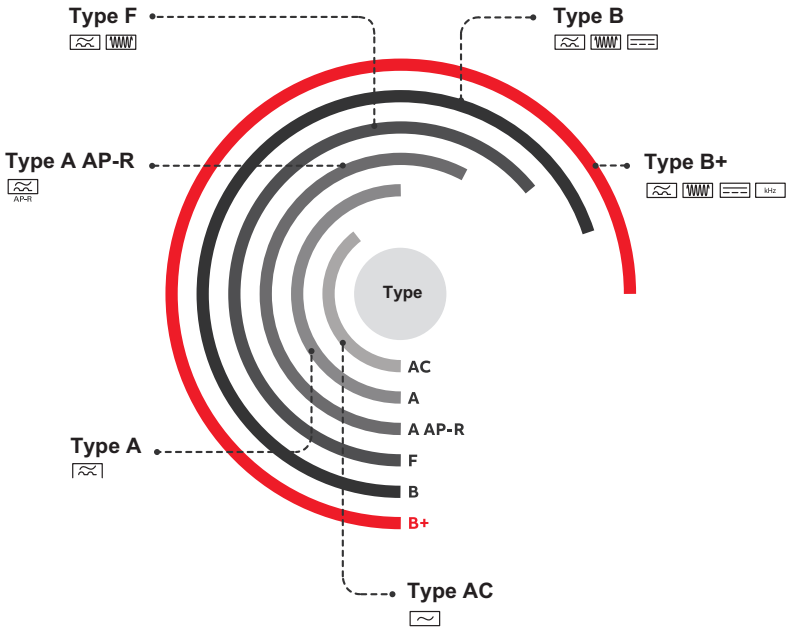
Technical Data

Explosion Protection	
Application range (Zone) note	For use in Zone 21/22 when protected by Ex tb/tc enclosure
IECEx gas explosion protection	Ex db eb IIC Gb
ATEX gas explosion protection	Ⓔx II 2 G Ex db eb IIC Gb
Certificates	ATEX (FM), Brazil (ULB), China (CQST), IECEx (FM)
Declaration of conformity	Certificate of conformity (ATEX), China (CCC)
Electrical Data	
Rated operational voltage AC	230 V
Frequency	50/60 Hz
Rated breaking capacity max	1 kA
Rated short-circuit current	10 kA
Electrical service life	10^4
Mechanical service life	2×10^4
2nd auxiliary function	without
2nd auxiliary function voltage AC	-
2nd auxiliary function voltage max. DC	-
Release type	Sensitive to alternating/pulse current
Ambient Conditions	
Ambient temperature	-25 °C ... 55 °C
Ambient temperature	-13°F ... +131°F
Ambient temperature note	Different ambient temperatures are possible on request based on the current certificates
Mechanical Data	
Degree of protection (IP) (IEC 60529)	IP2X
Enclosure material	Thermoplast
Connection cross section min.	1.5 mm²

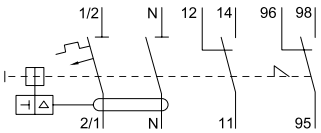
Technical Data

Mechanical Data	
Connection cross-section max.	25 mm²
Connection cross-section AWG min.	16 AWG
Connection cross-section AWG max.	4 AWG
Connection cross-section 2 min.	1.5 mm²
Connection cross-section 2 max.	10 mm²
Connection cross-section 2 AWG min.	16 AWG
Connection cross-section 2 AWG max.	8 AWG
Connection cross-section of auxiliary contact min.	0.5 mm²
Max. aux. cont. conn. cr.-sec.	4 mm²
Connection cross-section of auxiliary contact AWG min.	18 (unece.unit.AWG)
Connection cross-section of auxiliary contact AWG max.	14 (unece.unit.AWG)
Connection cross-section note	**2-conductor connection (top and bottom chambers at the same time):** - Top and bottom chambers max. 16/10 mm² (the maximum difference that can be clamped between the top and bottom chambers is equal to the cross-section.) Refer to the operating instructions for the approved combination possibilities of the connection cross-sections.
Mounting / Installation	
Tightening torque	2 – 3 N · m
Tightening torque lbf in	17.7 to 26.6 lbf-in
Tightening torque auxiliary contact	0.4 – 0.6 N · m
Tightening torque auxiliary contact lbf in	3.5 to 5.3 lbf in

Technical Drawings – Subject to Alterations

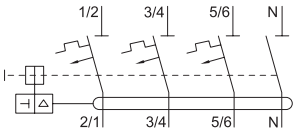


Release type (see type code)

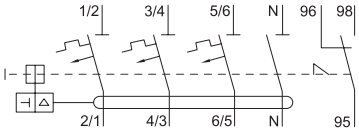


1-pole+N, auxiliary contact 1 change-over contact + fault signal contact 1 change-over contact

E9



3-pole + N, without auxiliary contact

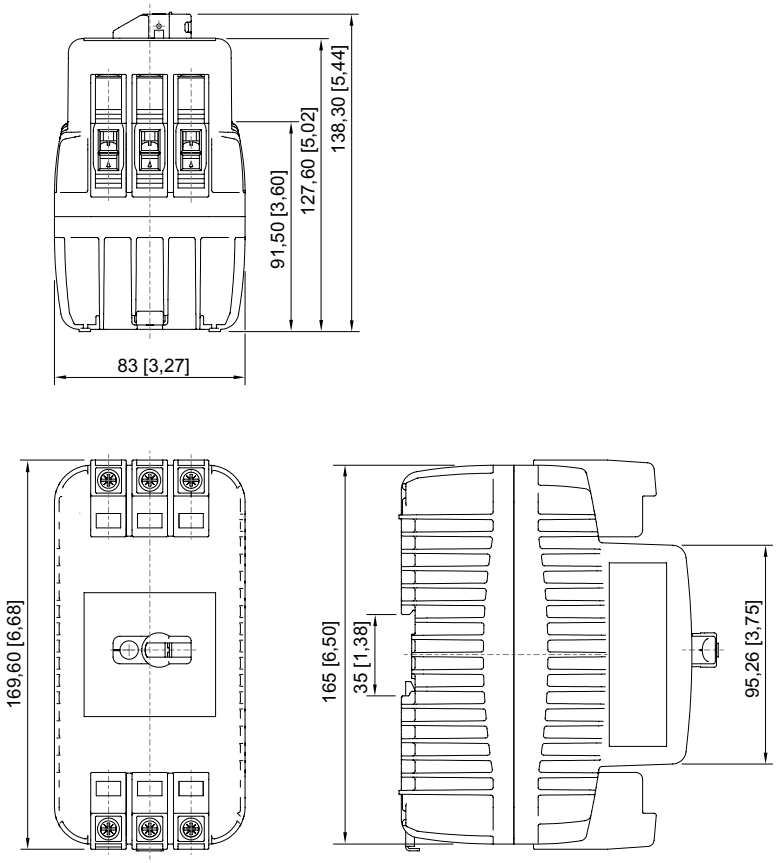


3-pole+N, fault signal contact 1 change-over contact

Accessories

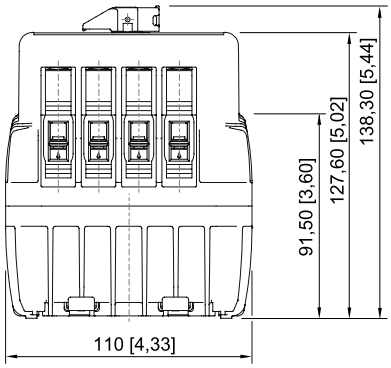
Figure	Description	Art. No.	Weight
4-way locking device			
	A lock-out/tag-out hasp for individually locking the component using up to four cylinder locks.	227232	-
Cylinder lock			
	for closing (bracket Ø 3)	107115	15 g
Fastening set			
	A fastening set for fastening the component on the mounting plate without a DIN rail	276618	55 g

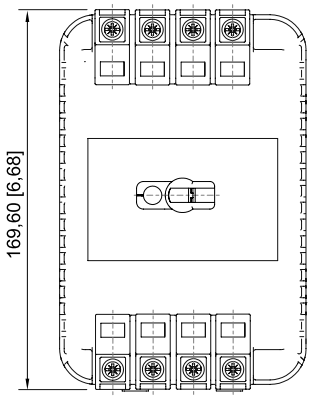
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations

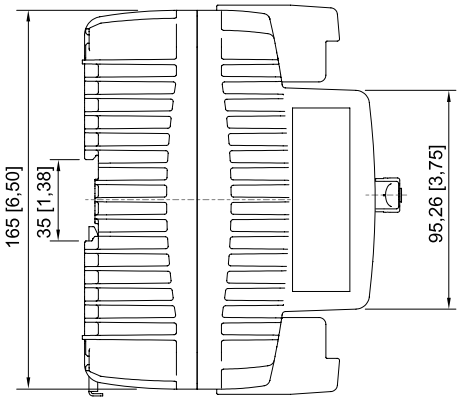


8530/1; 3 horizontal pitches

E9

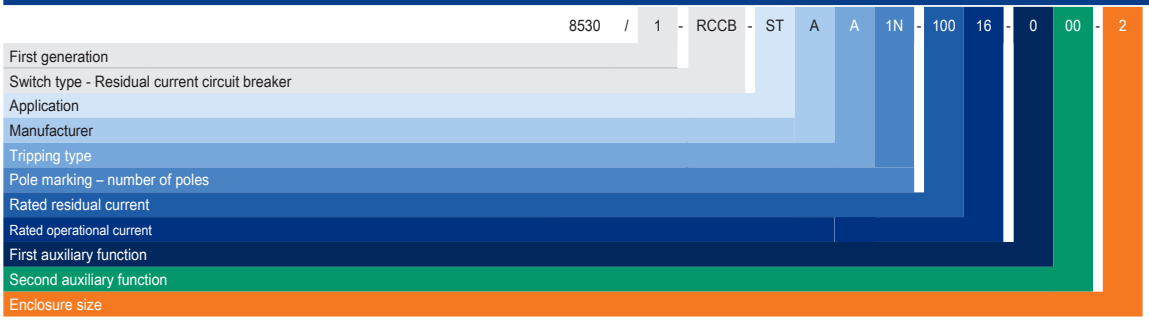






8530/1; 4 horizontal pitches

Type Code



Code	Application
ST	IEC
NA	North America

Code	Manufacturer
A	ABB
S	Siemens

Code	Tripping type
A	Independent of line voltage – tripping with AC residual currents and pulsating DC residual currents
AS	Independent of line voltage – tripping with AC residual currents and pulsating DC residual currents – with time delay „S“
AP	Short-time-delayed – high resistance to inadvertent tripping
A110V	Standard type A for special 110 V AC and 230 V AC applications, due to the minimum test button voltage of 95 V AC
B	Sensitive to universal current (sensitive to pulse current and DC) up to 2 kHz (monitoring frequency range 0 to 100 kHz)
BS	Selectively sensitive to universal current (sensitive to pulse current and DC) up to 2 kHz (monitoring frequency range 0 to 100 kHz)
B+	Selectively sensitive to universal current (sensitive to pulse current and DC) up to 20 kHz (monitoring frequency range 0 to 20 kHz)
F	AC residual currents with mixed frequencies (50 to 400 Hz) and pulsating DC residual currents

Code	Pole marking – number of poles
1N	1-pole + N – two-pole RCCB with one line conductor pole and one neutral conductor pole
3	3-pole – four-pole RCCB with three line conductors for use in networks without neutral conductor pole
3N	3-pole + N – four-pole RCCB with three line conductor poles and one neutral conductor pole

Code	Rated residual current
10	10 mA
30	30 mA
100	100 mA
300	300 mA
500	500 mA

Code	Rated operational current
16	16 A
25	25 A
40	40 A
63	63 A

Code	First auxiliary function
0	without
1	1 W auxiliary contact
2	2 W auxiliary contact
3	1 W fault signal contact
4	1 W fault signal contact with reset button
5	1 W auxiliary contact + 1 W fault signal contact
6	1 W auxiliary contact + 1 W fault signal contact with reset button

Code	Second auxiliary function
00	without
10	12 V AC undervoltage release
11	12 V DC undervoltage release
12	24 V AC undervoltage release
13	24 V DC undervoltage release
14	48 V AC undervoltage release
15	48 V DC undervoltage release
16	110 V AC undervoltage release
17	110 V DC undervoltage release
18	230 V AC undervoltage release
19	230 V DC undervoltage release
20	400 V AC undervoltage release
40	12 to 60 V AC + 12 to 60 V DC shunt trip
41	24 to 60 V AC + 24 to 48 V DC shunt trip
42	24 to 48 V AC + 24 to 48 V DC shunt trip
43	110 to 415 V AC + 110 V DC shunt trip
44	110 to 415 V AC + 110 to 125 V DC shunt trip
45	110 to 415 V AC + 110 to 250 V DC shunt trip
46	110 to 480 V AC shunt trip
50	3 A 230 V AC relay coupler

Code	Enclosure size
2	2 horizontal pitches/2-pole (depending on the built-in components)
3	3 horizontal pitches/3-pole (depending on the built-in components)
4	4 horizontal pitches/4-pole (depending on the built-in components)

Note:

- Please consult our technical sales department regarding the technical availability of configured variants.
- Please contact the Technical sales department for non-configurable variants.