



- Electric line and system protection for Ex e and Ex d motors
- Robust enclosure made from glass fibre-reinforced polyester resin
- Optional: Undervoltage release, shunt trip, ammeter, auxiliary contact

E7

WebCode **8146N**



R. STAHL's 8146/5-V27 series moulded case circuit breakers for motor protection protect Ex e and Ex d motors and their associated electric lines and systems. The standard variants feature an adjustable, phase-sensitive thermal overcurrent release or electromagnetic tripping mechanism, which has to be specified during the ordering process. They cannot be retrofitted.

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

Selection Table							
Current-setting range		0.10 - 0.16 A					
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-207-015-12-21-1	249192	2.610
		400 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-208-015-12-21-1	249193	2.610
		500 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-210-015-12-21-1	249194	2.610
1 NO 1 NC	Without	0 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-201-015-02-21-1	249238	2.600
Without	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-107-015-10-21-1	249151	2.610
		400 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-108-015-10-21-1	249152	2.610
		500 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-110-015-10-21-1	249153	2.610
Current-setting range		0.16 - 0.25 A					
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-207-025-12-21-1	249195	2.630
		400 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-208-025-12-21-1	249196	2.630
		500 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-210-025-12-21-1	249197	2.630
1 NO 1 NC	Without	0 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-201-025-02-21-1	249239	2.600
Without	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-107-025-10-21-1	249154	2.630

Selection Table								
Current-setting range		0.16 - 0.25 A						
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg	
400 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-108-025-10-21-1	249155		2.630		
500 V	3 x M25 Ø 7 – 17 mm	T6	8146/5-V27-110-025-10-21-1	249156		2.630		
Current-setting range		0.25 - 0.40 A						
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg	
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-207-035-12-21-1	249198	2.630	
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-208-035-12-21-1	249199	2.630	
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-210-035-12-21-1	249200	2.630	
1 NO 1 NC	Without	0 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-201-035-02-21-1	249240	2.600	
Without	Without	0 V	2 x M25 Ø 7 – 17 mm	T5	8146/5-V27-101-035-00-11-1	147184	2.600	
		Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-107-035-10-21-1	249157	2.630
			400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-108-035-10-21-1	249158	2.630
			500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-110-035-10-21-1	249159	2.630
Current-setting range		0.40 - 0.63 A						
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg	
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-207-045-12-21-1	249201	2.630	
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-208-045-12-21-1	249202	2.630	
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-208-045-12-21-2	277718	2.630	
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-210-045-12-21-1	249203	2.630	
1 NO 1 NC	Without	0 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-201-045-02-21-1	249241	2.600	
Without	Without	0 V	2 x M25 Ø 7 – 17 mm	T5	8146/5-V27-101-045-00-11-1	147185	2.600	
		Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-107-045-10-21-1	249160	2.630
			400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-108-045-10-21-1	249161	2.630
			500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-110-045-10-21-1	249162	2.630
Current-setting range		0.63 - 1.00 A						
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg	
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-207-055-12-21-1	249204	2.630	
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-208-055-12-21-1	249205	2.630	
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-210-055-12-21-1	249206	2.630	
1 NO 1 NC	Without	0 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-201-055-02-21-1	249242	2.600	

Selection Table							
Current-setting range		0.63 - 1.00 A					
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
Without	Without	0 V	2 x M25 Ø 7 – 17 mm	T5	8146/5-V27-101-055-00-11-1	147186	2.600
	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-107-055-10-21-1	249163	2.630
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-108-055-10-21-1	249164	2.630
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-110-055-10-21-1	249165	2.630
Current-setting range		1.00 - 1.60 A					
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
1 NC 1 NO	Without	0 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-201-065-02-21-1	249243	2.630
	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-207-065-12-21-1	249207	2.700
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-208-065-12-21-1	249208	2.700
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-210-065-12-21-1	249209	2.700
Without	Without	0 V	2 x M25 Ø 7 – 17 mm	T5	8146/5-V27-101-065-00-11-1	147187	2.630
	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-107-065-10-21-1	249166	2.700
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-108-065-10-21-1	249167	2.700
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-110-065-10-21-1	249168	2.700
Current-setting range		1.60 - 2.50 A					
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-207-075-12-21-1	249210	2.700
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-208-075-12-21-1	249211	2.700
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-210-075-12-21-1	249212	2.700
1 NO 1 NC	Without	0 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-201-075-02-21-1	249244	2.630
Without	Undervoltage release	0 V	2 x M25 Ø 7 – 17 mm	T5	8146/5-V27-101-075-00-11-1	147188	2.630
		230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-107-075-10-21-1	249169	2.700
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-108-075-10-21-1	249170	2.700
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-110-075-10-21-1	249171	2.700
	Without	0 V	2 x M25 Ø 7 – 17 mm	T6	8146/5-V27-501-072-00-11-1	277870	2.700
	Current-setting range		2.50 - 4.00 A				
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-207-085-12-21-1	249213	2.800
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-208-085-12-21-1	249214	2.800
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-210-085-12-21-1	249215	2.800

Selection Table							
Current-setting range		2.50 - 4.00 A					
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
1 NO 1 NC	Without	0 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-201-085-02-21-1	249245	2.630
Without	Undervoltage release	0 V	2 x M25 Ø 7 – 17 mm	T5	8146/5-V27-101-085-00-11-1	147189	2.630
		230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-107-085-10-21-1	249172	2.800
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-108-085-10-21-1	249173	2.800
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-108-085-10-21-2	276475	2.800
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-110-085-10-21-1	249174	2.800
Current-setting range		4.00 - 6.30 A					
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-207-095-12-21-1	249216	2.800
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-208-095-12-21-1	249217	2.800
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-210-095-12-21-1	249218	2.800
1 NO 1 NC	Without	0 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-201-095-02-21-1	249246	2.630
Without	Undervoltage release	0 V	2 x M25 Ø 7 – 17 mm	T5	8146/5-V27-101-095-00-11-1	147190	2.630
		230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-107-095-10-21-1	249175	2.800
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-108-095-10-21-1	249176	2.800
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-110-095-10-21-1	249177	2.800
Current-setting range		6.30 - 9.00 A					
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-207-105-12-21-1	249219	3.000
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-208-105-12-21-1	249220	3.000
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-210-105-12-21-1	249221	3.000
1 NO 1 NC	Without	0 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-201-105-02-21-1	249247	2.850
Without	Undervoltage release	0 V	2 x M25 Ø 7 – 17 mm	T5	8146/5-V27-101-105-00-11-1	147191	2.850
		230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-107-105-10-21-1	249178	3.000
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-108-105-10-21-1	249179	3.000
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-110-105-10-21-1	249180	3.000

Selection Table							
Current-setting range		9.00 - 12.50 A					
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-207-115-12-21-1	249222	3.350
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-208-115-12-21-1	249223	3.350
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-210-115-12-21-1	249224	3.350
1 NO 1 NC	Without	0 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-201-115-02-21-1	249248	3.200
Without	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-107-115-10-21-1	249183	3.350
		400 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-108-115-10-21-1	249185	3.350
		500 V	3 x M25 Ø 7 – 17 mm	T5	8146/5-V27-110-115-10-21-1	249186	3.350
		Without	0 V	2 x M25 Ø 7 – 17 mm	T5	8146/5-V27-101-115-00-11-1	147192
Current-setting range		12.50 - 16.00 A					
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T4	8146/5-V27-207-125-12-21-1	249225	3.700
		400 V	3 x M25 Ø 7 – 17 mm	T4	8146/5-V27-208-125-12-21-1	249226	3.700
		500 V	3 x M25 Ø 7 – 17 mm	T4	8146/5-V27-210-125-12-21-1	249227	3.700
1 NO 1 NC	Without	0 V	3 x M25 Ø 7 – 17 mm	T4	8146/5-V27-201-125-02-21-1	249249	3.550
Without	Undervoltage release	230 V	3 x M25 Ø 7 – 17 mm	T4	8146/5-V27-107-125-10-21-1	249187	3.700
		400 V	3 x M25 Ø 7 – 17 mm	T4	8146/5-V27-108-125-10-21-1	249188	3.700
		500 V	3 x M25 Ø 7 – 17 mm	T4	8146/5-V27-110-125-10-21-1	249189	3.700
Current-setting range		16.00 - 20.00 A					
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
1 NC 1 NO	Undervoltage release	230 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 – 17 mm	T5	8146/5-V27-407-135-12-41-1	249232	4.400
		400 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 – 17 mm	T5	8146/5-V27-408-135-12-41-1	249233	4.400
		500 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 – 17 mm	T5	8146/5-V27-410-135-12-41-1	249234	4.400
1 NO 1 NC	Without	0 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 to 17 mm	T5	8146/5-V27-401-135-02-41-1	249250	4.250
Without	Undervoltage release	230 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 – 17 mm	T5	8146/5-V27-301-135-00-31-1	147203	4.200
		400 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 – 17 mm	T5	8146/5-V27-307-135-10-41-1	249228	4.400
		400 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 – 17 mm	T5	8146/5-V27-308-135-10-41-1	249229	4.400
		500 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 – 17 mm	T5	8146/5-V27-310-135-10-41-1	249190	4.400

Selection Table

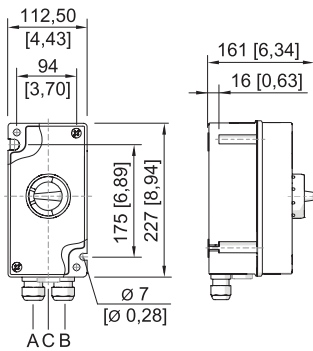
Current-setting range		20.00 - 22.50 A					
Auxiliary contacts	Release	Release voltage AC	Cable entries	Gas temperature class	Product Type	Art. No.	Weight kg
1 NC 1 NO	Undervoltage release	230 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 to 17 mm	T5	8146/5-V27-407-145-12-41-1	249235	4.400
		400 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 to 17 mm	T5	8146/5-V27-408-145-12-41-1	249236	4.400
		500 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 to 17 mm	T5	8146/5-V27-410-145-12-41-1	249237	4.400
1 NO 1 NC	Without	0 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 to 17 mm	T5	8146/5-V27-401-145-02-41-1	249251	4.250
Without	Undervoltage release	500 V	1 x M20 Ø 4 – 13 mm 2 x M25 Ø 7 – 17 mm	T4	8146/5-V27-110-145-10-51-1	249191	4.400
		Without	0 V	2 x M32 Ø 9 – 21 mm	T5	8146/5-V27-301-145-00-31-1	147204
	Undervoltage release	230 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 – 17 mm	T5	8146/5-V27-307-145-10-41-1	249230	4.400
		400 V	2 x M32 Ø 9 – 21 mm 1 x M25 Ø 7 – 17 mm	T5	8146/5-V27-308-145-10-41-1	249231	4.400

Technical Data

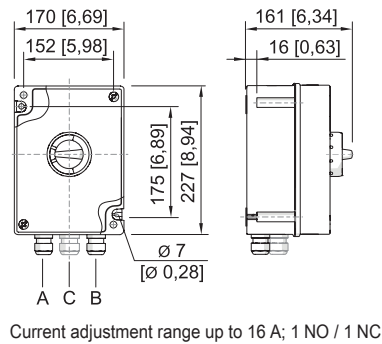
Variant	Gas temperature class T6	Gas temperature class T5
Explosion Protection		
IECEX gas explosion protection	Ex db eb IIC T6 Gb	Ex db eb IIC T5 Gb
IECEX dust explosion protection	Ex tb IIIC T80 °C Db	Ex tb IIIC T95 °C Db
ATEX gas explosion protection	Ⓔ II 2 G Ex db eb IIC T6 Gb	Ⓔ II 2 G Ex db eb IIC T5 Gb
ATEX dust explosion protection	Ⓔ II 2 D Ex tb IIIC T80 °C Db	Ⓔ II 2 D Ex tb IIIC T95 °C Db
EAC gas explosion protection	Ⓔ 1 Ex e * IIA ... IIC T6 ... T3 Gb X	Ⓔ 1 Ex e * IIA ... IIC T6 ... T3 Gb X
EAC dust explosion protection	Ⓔ Ex tb IIIC T80 °C ... T130 °C Db X	Ⓔ Ex tb IIIC T80 °C ... T130 °C Db X
Certificates	ATEX (PTB), Canada (FM), China (NEPSI), EAC (LPE), IECEX (PTB)	ATEX (PTB), Canada (FM), China (NEPSI), EAC (LPE), IECEX (PTB)
Electrical Data		
No. of poles	3	3
Ambient Conditions		
Ambient temperature	-20°C ... +40°C	-20°C ... +40°C
Notes	Information regarding ambient conditions can be found on the Internet at r-stahl.com. WebCode 8146N	
Mechanical Data		
Degree of protection (IP)	IP66	IP66
Enclosure material	Polyester resin, Glass fibre reinforced	Polyester resin, Glass fibre reinforced
Colour of handle	Black	Black
Colour of protective collar	Black	Black
Labelling rotary actuator	0 - I	0 - I
Seal	Silicone, foamed	Silicone, foamed
Lockable in	3x in 0	3x in 0
Components		
Entry type	Standard 8161, moulded material	Standard 8161, moulded material

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

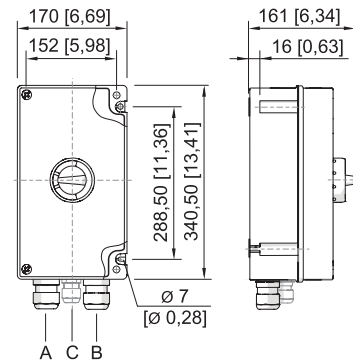
E7



Current adjustment range up to 16 A; without auxiliary contact



Current adjustment range up to 16 A; 1 NO / 1 NC



Current adjustment range 16 ... 20 A and 20 ... 22.5 A; with / without auxiliary contact

Cable entries

Version	Auxiliary contacts	Cable glands Series 8161		Stopping plugs Series 8290
		M25 x 1.5	M32 x 1.5	M25 x 1.5
Current adjustment range up to 16 A	without	A, B	--	C
	with	A, B, C	--	--
Current adjustment range 16 ... 20 A, 20 ... 22.5 A	without	--	A, B	C
	with	C	A, B	--