

# Moulded case circuit breakers for motor protection

Series 8146/5-V27

STAHL



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

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## MY R. STAHL 8146N



R. STAHL Series 8146/5-V27 moulded case circuit breakers for motor protection protect Ex e and Ex d motors as well as the associated conductors and systems. The standard versions feature an adjustable, phase-sensitive thermal overcurrent release or an electromagnetic quick release, 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	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 ...	T6	8146/5-V27-207-015-12-21-1	249192	2.61 kg
		400 V	3 x M25 Ø 7 ...	T6	8146/5-V27-208-015-12-21-1	249193	2.61 kg
		500 V	3 x M25 Ø 7 ...	T6	8146/5-V27-210-015-12-21-1	249194	2.61 kg
1 NO 1 NC	without	-	3 x M25 Ø 7 ...	T6	8146/5-V27-201-015-02-21-1	249238	2.6 kg
without	Undervoltage release	230 V	3 x M25 Ø 7 ...	T6	8146/5-V27-107-015-10-21-1	249151	2.61 kg
		400 V	3 x M25 Ø 7 ...	T6	8146/5-V27-108-015-10-21-1	249152	2.61 kg
		500 V	3 x M25 Ø 7 ...	T6	8146/5-V27-110-015-10-21-1	249153	2.61 kg
Current-setting range		0.16-0.25 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 ...	T6	8146/5-V27-207-025-12-21-1	249195	2.63 kg
		400 V	3 x M25 Ø 7 ...	T6	8146/5-V27-208-025-12-21-1	249196	2.63 kg
		500 V	3 x M25 Ø 7 ...	T6	8146/5-V27-210-025-12-21-1	249197	2.63 kg
1 NO 1 NC	without	-	3 x M25 Ø 7 ...	T6	8146/5-V27-201-025-02-21-1	249239	2.6 kg

**Selection Table**

Current-setting range		0.16-0.25 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
without	Undervoltage release	230 V	3 x M25 Ø 7 ...	T6	8146/5-V27-107-025-10-21-1	249154	2.63 kg
		400 V	3 x M25 Ø 7 ...	T6	8146/5-V27-108-025-10-21-1	249155	2.63 kg
		500 V	3 x M25 Ø 7 ...	T6	8146/5-V27-110-025-10-21-1	249156	2.63 kg
Current-setting range		0.25-0.40 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-207-035-12-21-1	249198	2.63 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-208-035-12-21-1	249199	2.63 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-210-035-12-21-1	249200	2.63 kg
1 NO 1 NC	without	-	3 x M25 Ø 7 ...	T5	8146/5-V27-201-035-02-21-1	249240	2.6 kg
without	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-107-035-10-21-1	249157	2.63 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-108-035-10-21-1	249158	2.63 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-110-035-10-21-1	249159	2.63 kg
	without	-	2 x M25 Ø 7 ...	T5	8146/5-V27-101-035-00-11-1	147184	2.6 kg
Current-setting range		0.40-0.63 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-207-045-12-21-1	249201	2.63 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-208-045-12-21-1	249202	2.63 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-208-045-12-21-2	277718	2.63 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-210-045-12-21-1	249203	2.63 kg
1 NO 1 NC	without	-	3 x M25 Ø 7 ...	T5	8146/5-V27-201-045-02-21-1	249241	2.6 kg
without	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-107-045-10-21-1	249160	2.63 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-108-045-10-21-1	249161	2.63 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-110-045-10-21-1	249162	2.63 kg
	without	-	2 x M25 Ø 7 ...	T5	8146/5-V27-101-045-00-11-1	147185	2.6 kg
Current-setting range		0.63-1.00 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-207-055-12-21-1	249204	2.63 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-208-055-12-21-1	249205	2.63 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-210-055-12-21-1	249206	2.63 kg
1 NO 1 NC	without	-	3 x M25 Ø 7 ...	T5	8146/5-V27-201-055-02-21-1	249242	2.6 kg

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Selection Table							
Current-setting range		0.63-1.00 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
without	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-107-055-10-21-1	249163	2.63 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-108-055-10-21-1	249164	2.63 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-110-055-10-21-1	249165	2.63 kg
	without	-	2 x M25 Ø 7 ...	T5	8146/5-V27-101-055-00-11-1	147186	2.6 kg
Current-setting range		1.00-1.60 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-207-065-12-21-1	249207	2.7 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-208-065-12-21-1	249208	2.7 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-210-065-12-21-1	249209	2.7 kg
1 NO 1 NC	without	-	3 x M25 Ø 7 ...	T5	8146/5-V27-201-065-02-21-1	249243	2.63 kg
without	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-107-065-10-21-1	249166	2.7 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-108-065-10-21-1	249167	2.7 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-110-065-10-21-1	249168	2.7 kg
	without	-	2 x M25 Ø 7 ...	T5	8146/5-V27-101-065-00-11-1	147187	2.63 kg
Current-setting range		1.60-2.50 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-207-075-12-21-1	249210	2.7 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-110-075-10-21-1	249171	2.7 kg
without	without	-	2 x M25 Ø 7 ...	T5	8146/5-V27-101-075-00-11-1	147188	2.63 kg
		-	2 x M25 Ø 7 ...	T6	8146/5-V27-501-072-00-11-1	277870	2.7 kg
		Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-107-075-10-21-1	249169
	400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-108-075-10-21-1	249170	2.7 kg	
1 NO 1 NC	without	-	3 x M25 Ø 7 ...	T5	8146/5-V27-201-075-02-21-1	249244	2.63 kg
1 NC 1 NO	Undervoltage release	400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-208-075-12-21-1	249211	2.7 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-210-075-12-21-1	249212	2.7 kg
Current-setting range		2.50-4.00 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-207-085-12-21-1	249213	2.8 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-208-085-12-21-1	249214	2.8 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-210-085-12-21-1	249215	2.8 kg
1 NO 1 NC	without	-	3 x M25 Ø 7 ...	T5	8146/5-V27-201-085-02-21-1	249245	2.63 kg

**Selection Table**

Current-setting range		2.50-4.00 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
without	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-107-085-10-21-1	249172	2.8 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-108-085-10-21-1	249173	2.8 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-108-085-10-21-2	276475	2.8 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-110-085-10-21-1	249174	2.8 kg
	without	-	2 x M25 Ø 7 ...	T5	8146/5-V27-101-085-00-11-1	147189	2.63 kg
Current-setting range		4.00-6.30 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-207-095-12-21-1	249216	2.8 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-208-095-12-21-1	249217	2.8 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-210-095-12-21-1	249218	2.8 kg
1 NO 1 NC	without	-	3 x M25 Ø 7 ...	T5	8146/5-V27-201-095-02-21-1	249246	2.63 kg
without	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-107-095-10-21-1	249175	2.8 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-108-095-10-21-1	249176	2.8 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-110-095-10-21-1	249177	2.8 kg
	without	-	2 x M25 Ø 7 ...	T5	8146/5-V27-101-095-00-11-1	147190	2.63 kg
Current-setting range		6.30-9.00 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-207-105-12-21-1	249219	3 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-208-105-12-21-1	249220	3 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-210-105-12-21-1	249221	3 kg
1 NO 1 NC	without	-	3 x M25 Ø 7 ...	T5	8146/5-V27-201-105-02-21-1	249247	2.85 kg
without	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-107-105-10-21-1	249178	3 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-108-105-10-21-1	249179	3 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-110-105-10-21-1	249180	3 kg
	without	-	2 x M25 Ø 7 ...	T5	8146/5-V27-101-105-00-11-1	147191	2.85 kg
Current-setting range		9.00-12.50 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-207-115-12-21-1	249222	3.35 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-208-115-12-21-1	249223	3.35 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-210-115-12-21-1	249224	3.35 kg
1 NO 1 NC	without	-	3 x M25 Ø 7 ...	T5	8146/5-V27-201-115-02-21-1	249248	3.2 kg

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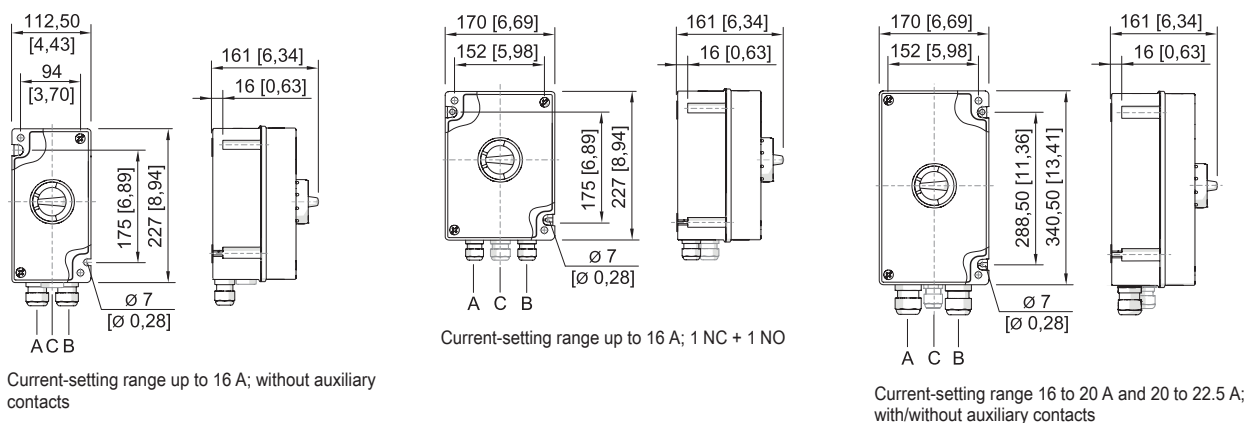
Selection Table							
Current-setting range		9.00-12.50 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
without	Undervoltage release	230 V	3 x M25 Ø 7 ...	T5	8146/5-V27-107-115-10-21-1	249183	3.35 kg
		400 V	3 x M25 Ø 7 ...	T5	8146/5-V27-108-115-10-21-1	249185	3.35 kg
		500 V	3 x M25 Ø 7 ...	T5	8146/5-V27-110-115-10-21-1	249186	3.35 kg
without	-	2 x M25 Ø 7 ...	T5	8146/5-V27-101-115-00-11-1	147192	3.2 kg	
Current-setting range		12.50-16.00 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	3 x M25 Ø 7 ...	T4	8146/5-V27-207-125-12-21-1	249225	3.7 kg
		400 V	3 x M25 Ø 7 ...	T4	8146/5-V27-208-125-12-21-1	249226	3.7 kg
		500 V	3 x M25 Ø 7 ...	T4	8146/5-V27-210-125-12-21-1	249227	3.7 kg
1 NO 1 NC	without	-	3 x M25 Ø 7 ...	T4	8146/5-V27-201-125-02-21-1	249249	3.55 kg
without	Undervoltage release	230 V	3 x M25 Ø 7 ...	T4	8146/5-V27-107-125-10-21-1	249187	3.7 kg
		400 V	3 x M25 Ø 7 ...	T4	8146/5-V27-108-125-10-21-1	249188	3.7 kg
		500 V	3 x M25 Ø 7 ...	T4	8146/5-V27-110-125-10-21-1	249189	3.7 kg
Current-setting range		16.00-20.00 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ...	T5	8146/5-V27-407-135-12-41-1	249232	4.4 kg
		400 V	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ...	T5	8146/5-V27-408-135-12-41-1	249233	4.4 kg
		500 V	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ...	T5	8146/5-V27-410-135-12-41-1	249234	4.4 kg
1 NO 1 NC	without	-	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ... 17 mm	T5	8146/5-V27-401-135-02-41-1	249250	4.25 kg
without	Undervoltage release	230 V	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ...	T5	8146/5-V27-307-135-10-41-1	249228	4.4 kg
		400 V	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ...	T5	8146/5-V27-308-135-10-41-1	249229	4.4 kg
		500 V	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ...	T5	8146/5-V27-310-135-10-41-1	249190	4.4 kg
without	-	2 x M32 Ø 9 to 21 mm	T5	8146/5-V27-301-135-00-31-1	147203	4.2 kg	
Current-setting range		20.00-22.50 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
1 NC 1 NO	Undervoltage release	230 V	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ... 17 mm	T5	8146/5-V27-407-145-12-41-1	249235	4.4 kg
		400 V	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ... 17 mm	T5	8146/5-V27-408-145-12-41-1	249236	4.4 kg
		500 V	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ... 17 mm	T5	8146/5-V27-410-145-12-41-1	249237	4.4 kg
1 NO 1 NC	without	-	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ... 17 mm	T5	8146/5-V27-401-145-02-41-1	249251	4.25 kg

**Selection Table**

Current-setting range		20.00-22.50 A					
Auxiliary contacts	Release	AC release voltage	Cable glands and entries	Gas temperature class	Product Type	Art. No.	Weight
without	Undervoltage release	500 V	1 x M20 Ø 4 ... 13 mm 2 x M25 Ø 7 ...	T4	8146/5-V27-110-145-10-51-1	249191	4.4 kg
		230 V	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ...	T5	8146/5-V27-307-145-10-41-1	249230	4.4 kg
		400 V	2 x M32 Ø 9 to 21 mm 1 x M25 Ø 7 ...	T5	8146/5-V27-308-145-10-41-1	249231	4.4 kg
	without	-	2 x M32 Ø 9 to 21 mm	T5	8146/5-V27-301-145-00-31-1	147204	4.2 kg

**Technical Data**

Variant	Gas temperature class T6	Gas temperature class T5
<b>Explosion Protection</b>		
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
Certificates	ATEX (PTB), Canada (FM), China (NEPSI), IECEx (PTB), India (PESO)	ATEX (PTB), Canada (FM), China (NEPSI), IECEx (PTB), India (PESO)
Declaration of Conformity	ATEX (EUK), China (CCC)	ATEX (EUK), China (CCC)
<b>Electrical Data</b>		
No. of poles	3	3
<b>Ambient Conditions</b>		
Ambient temperature	-20°C ... +40°C	-20°C ... +40°C
Notes	You can find information about the ambient temperature online at <a href="http://r-stahl.com">r-stahl.com</a> . MY R. STAHL 8146N	
<b>Mechanical Data</b>		
Degree of protection (IP)	IP66	IP66
Enclosure material	Polyester resin, Glass fibre reinforced	Polyester resin, Glass fibre reinforced
Handle colour	Black	Black
Protective collar colour	Black	Black
Rotary actuator labelling	0 - I	0 - I
Seal	Silicone, foamed	Silicone, foamed
Lockable in	Three times in 0 position	Three times in 0 position

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


# Moulded case circuit breakers for motor protection

Series 8146/5-V27



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## 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-setting range up to 16 A	without	A, B	--	C
	with	A, B, C	--	--
Current-setting range 16 to 20 A, 20 to 22.5 A	without	--	A, B	C
	with	C	A, B	--