Load disconnect switch
Series 8146/5-V11

00653E00

- Motor switching capacity AC-3 and AC-23 acc. to DIN VDE 0660 part 107 IEC/EN 60947-3
- Isolating characteristics acc. to IEC/EN 60947-3
- Positive opening operation of the main contacts
- Available for rated operating currents of 16 A to 630 A
- Robust enclosure made of glass fibre reinforced polyester resin
- Large handle, lockable, black or yellow / red colours
- Degree of protection IP66

Series 8146/5-V11 load and motor switches are used as main connection switches for distribution units and motor circuits. The standard range of switches have rated operating currents up to 80 A. Switches for higher rated operating currents are designed and manufactured to order.

	ATEX							Class I (NEC 505)			(NEC 506)				Class I		Class II		Class III	
Zone	0	1	2	20	21	22	Zone	0	1	2	20	21	22	Division	1	2	1	2	1	2
For use in		x	x		x	x	For use in		x*)					For use in		x*)				

*) Special version on request

Explosion Protection	
Global (IECEx)	
Gas and dust	8146/5: IECEx PTB 06.0090 8146/5: Ex d e ia/ib [iaGa] mb q IIA, IIB, IIC T6, T5, T4 Gb 8146/5: Ex tb IIIA, IIIB, IIIC T80°C, T95°C, T130°C Db
Europe (ATEX)	
Gas and dust	8146/5: PTB 01 ATEX 1024 8146/5: E II 2 G Ex d e ia ib [ia Ga] mb q IIA, IIB, IIC T6, T5, T4 Gb 8146/5: E II 2 D Ex tb IIIA, IIIB, IIIC T80°C, T95°C, T130°C Db IP66 (marking on rating plate possible)
Certifications and certificates	
Certificates	IECEx, ATEX, Kazakhstan (TR), Russia (TR), Belarus (TR)

WebCode 8146M

Load disconnect switch
Series 8146/5-V11

Selection Table

Version	Enclosure material	Equipment Colour	Additional device	Cable dia. range [mm]	Order number	Weight kg
10 A, 3-pole	Polyester resin	black handle, black protective collar	– –	2 x 7 ... 17 (M25), 1 x 4 ... 13 (M20)	**8146/5-V11-300-00-0050**	1,377
	Polyester resin	red handle, yellow protective collar	– –	2 x 7 ... 17 (M25), 1 x 4 ... 13 (M20)	**8146/5-V11-300-00-1050**	1,377
10 A, 3-pole + N	Polyester resin	black handle, black protective collar	– –	2 x 7 ... 17 (M25), 1 x 4 ... 13 (M20)	**8146/5-V11-400-00-0050**	1,377
	Polyester resin	red handle, yellow protective collar	– –	2 x 7 ... 17 (M25), 1 x 4 ... 13 (M20)	**8146/5-V11-400-00-1050**	1,377

Reversing switches are available only in V11, not as safety switches V37.

Technical Data

Design	10 A
Mechanical data	
Degree of protection	IP66 acc. to IEC/EN 60529
Enclosure cover	V11: In switching position ON locked, in OFF position removable
Handle	Can be locked with 3 padlocks in 0-position
Mounting / Installation	
Cable entries	Standard: In polyamide, Series 8161 Special: In metal
Main contacts	
Electrical data	
Rated operational voltage	690 V AC
Rated insulation voltage	750 V
Rated impulse withstand voltage	6 kV
Rated operational current	10 A
Switching capacity	acc. to IEC/EN 60947-3; DIN VDE 0660, part 107

	AC-3	
U_e	I	P
230 V ~	10 A	2.2 kW
400 V ~	10 A	4.0 kW
440 V ~	10 A	4.0 kW
500 V ~	10 A	5.5 kW
690 V ~	10 A	7.5 kW

	DC-1	DC-13 (L/R = 300 ms)	
U_e	I	U_e	I
220 V	6 A[3)]	230 V	0.4 A
110 V	6 A[2)]		
60 V	6 A[1)]		
24 V	10 A[1)]		

[1)] 1 conducting path
[2)] 2 conducting paths in series
[3)] 3 conducting paths in series

Technical Data	
Service life of electrical / mechanical parts	40.000 operations
Max. short-circuit protection	16 A, tripping characteristic: gG acc. to IEC/EN 60291-1
Auxiliary contacts	
Electrical data	
Rated operating voltage	400 V AC
Rated operational current	6 A
Mechanical data	
Switch	1 NO (ON delayed - OFF advanced)
Mounting / Installation	
Terminals	2,5 ... 4 mm² finely stranded / solid wire

Type 8146/5-V..-	No. of poles		max. current [A]	Conductor cross-section [1] [mm²]		Temperature class / perm. ambient temperature
	Main contacts	Auxiliary contacts		min.	max.	
300-...	3	1	10	2,5	4	**T6: -40 ... +51 °C** T6: -40 ... +54 °C [2] T5: -40 ... +69 °C [2]
300-00-...	3	0				
400-...	3	0	10	2,5	4	**T6: -40 ... +51 °C** T6: -40 ... +54 °C [2] T5: -40 ... +69 °C [2]

[1] Engineering note:
The maximum conductor cross-sections given were determined using the H07V.
The minimum bending radius was assumed to be 4 x outer diameter in accordance with VDE 0298-3.
[2] only with heat-resistant cable > 70 °C on cable entries or/and > 85 °C on clamping points
Grease: specified on rating plate

Load disconnect switch
Series 8146/5-V11

Selection Table

Version	Enclosure material	Equipment Colour	Additional device	Cable dia. range [mm]	Order number	Weight kg
16 A, 3-pole	Polyester resin	black handle, black protective collar	– –	2 x 7 ... 17 (M25), 1 x 4 ... 13 (M20)	**8146/5-V11-302-00-0050**	1,670
	Polyester resin	red handle, yellow protective collar	– –	2 x 7 ... 17 (M25), 1 x 4 ... 13 (M20)	**8146/5-V11-302-00-1050**	1,670
	Polyester resin	black handle, black protective collar	with N-terminal	2 x 7 ... 17 (M25), 1 x 4 ... 13 (M20)	**8146/5-V11-102-00-0110**	2,679
16 A, 3-pole + N	Polyester resin	black handle, black protective collar	– –	2 x 7 ... 17 (M25), 1 x 4 ... 13 (M20)	**8146/5-V11-402-00-0050**	1,730
	Polyester resin	red handle, yellow protective collar	– –	2 x 7 ... 17 (M25), 1 x 4 ... 13 (M20)	**8146/5-V11-402-00-1050**	1,730

Reversing switches are available only in V11, not as safety switches V37.

Technical Data

Design	16 A
Mechanical data	
Degree of protection	IP66 acc. to IEC/EN 60529
Enclosure cover	V11: In switching position ON locked, in OFF position removable
Handle	Can be locked with 3 padlocks in 0-position
Mounting / Installation	
Cable entries	Standard: In polyamide, Series 8161 Special: In metal
Main contacts	
Electrical data	
Rated operational voltage	690 V AC
Rated insulation voltage	690 V
Rated impulse withstand voltage	6 kV
Rated operational current	16 A

Technical Data

Switching capacity

acc. to IEC/EN 60947-3; DIN VDE 0660, part 107

	AC-3	
U_e	I	P
230 V ~	16 A	4.0 kW
400 V ~	16 A	7.5 kW
440 V ~	16 A	7.5 kW
500 V ~	16 A	7.5 kW
690 V ~	16 A	11.0 kW

	DC-1, DC-23	DC-13 (L/R = 300 ms)	
U_e	I	U_e	I
220 V	16 A[3)]	250 V	1.1 A
120 V	16 A[2)]	125 V	2.2 A
60 V	16 A[1)]	60 V	5.0 A

[1)] 1 conducting path
[2)] 2 conducting paths in series
[3)] 3 conducting paths in series

Service life of electrical / mechanical parts

40.000 operations

Max. short-circuit protection

25 A, tripping characteristic: gG acc. to IEC/EN 60291-1

Auxiliary contacts

Electrical data

Rated operating voltage

400 V AC

Rated operational current

10 A

Mechanical data

Switch

3-pole: 1 NO (ON delayed - OFF advanced)
6-pole: 2 NO (1 x ON delayed - OFF advanced / 1 x switching normally)

Mounting / Installation

Terminals

2.5 ... 10 mm^2 finely stranded / solid

Ambient conditions 16 A

Type 8146/5-V..-	No. of poles		max. current [A]	Conductor cross-section [1)] [mm^2]		Temperature class / Perm. ambient temperature
	Main contacts	Auxiliary contacts		min.	max.	
302-...	3	0	16	2.5	6	**T6: -40 ... +51 °C** T6: -40 ... +54 °C [2)] T5: -40 ... +69 °C [2)]
102-..	3	0				
402-...	4	0	16	2.5	6	**T6: -40 ... +48 °C** T6: -40 ... +51 °C [2)] T5: -40 ... +66 °C [2)]

[1)] Engineering note:
The maximum conductor cross-sections given were determined using the H07V.
The minimum bending radius was assumed to be 4 x outer diameter in accordance with VDE 0298-3.
[2)] only with heat-resistant cable > 70 °C on cable entries or/and > 85 °C on clamping points
Grease: specified on rating plate

Load disconnect switch
Series 8146/5-V11

Selection Table

Version	Enclosure material	Equipment Colour	 Additional device	Cable dia. range [mm]	Order number	Weight kg
20 A, 3-pole	Polyester resin	black handle, black protective collar	– –	2 x 9 ... 21 (M32), 1 x 4 ... 13 (M20)	**8146/5-V11-303-00-0010**	1,795
	Polyester resin	red handle, yellow protective collar	– –	2 x 9 ... 21 (M32), 1 x 4 ... 13 (M20)	**8146/5-V11-303-00-1010**	1,795
20 A, 3-pole + N	Polyester resin	black handle, black protective collar	– –	2 x 9 ... 21 (M32), 1 x 4 ... 13 (M20)	**8146/5-V11-403-00-0010**	1,815
	Polyester resin	red handle, yellow protective collar	– –	2 x 9 ... 21 (M32), 1 x 4 ... 13 (M20)	**8146/5-V11-403-00-1010**	1,815

Reversing switches are available only in V11, not as safety switches V37.

Technical Data

Design	20 A
Mechanical data	
Degree of protection	IP66 acc. to IEC/EN 60529
Enclosure cover	V11: In switching position ON locked, in OFF position removable
Handle	Can be locked with 3 padlocks in 0-position
Mounting / Installation	
Cable entries	Standard: In polyamide, Series 8161 Special: In metal
Main contacts	
Electrical data	
Rated operational voltage	690 V AC
Rated insulation voltage	690 V
Rated operational current	20 A
Switching capacity	acc. to IEC/EN 60947-3; DIN VDE 0660, part 107

	AC-3	
U_e	I	P
230 V ~	20 A	5.5 kW
400 V ~	20 A	7.5 kW
440 V ~	20 A	11.0 W
500 V ~	20 A	11.0 kW
690 V ~	20 A	18.5 kW

	DC-1, DC-23	DC-13 (L/R = 300 ms)	
U_e	I	U_e	I
220 V	20 A[3)]	250 V	1.1 A
120 V	20 A[2)]	125 V	2.2 A
60 V	20 A[1)]	60 V	5.0 A

[1)] 1 conducting path
[2)] 2 conducting paths in series
[3)] 3 conducting paths in series

Service life of electrical / mechanical parts	40.000 operations

Technical Data	
Max. short-circuit protection	35 A, tripping characteristic: gG acc. to IEC/EN 60291-1
Auxiliary contacts	
Electrical data	
Rated operating voltage	500 V AC
Rated operational current	10 A
Mounting / Installation	
Terminals	4 ... 6 mm² finely stranded / solid

Ambient conditions 20 A

Type 8146/5-V..-	No. of poles		max. current [A]	Conductor cross-section [1] [mm²]		Temperature class / Perm. ambient temperature
	Main contacts	Auxiliary contacts		min.	max.	
303-...	3	0	20	4	6	**T6: -40 ... +40 °C** T5: -40 ... +55 °C [2]
403-...	4	0	20	4	6	T5: -40 ... +51 °C [2]

[1] Engineering note:
The maximum conductor cross-sections given were determined using the H07V.
The minimum bending radius was assumed to be 4 x outer diameter in accordance with VDE 0298-3.
[2] only with heat-resistant cable > 70 °C on cable entries or/and > 85 °C on clamping points
Grease: specified on rating plate

Load disconnect switch
Series 8146/5-V11

Selection Table

Version	Enclosure material	Equipment		Cable dia. range [mm]	Order number	Weight
		Colour	Additional device			kg
25 A, 3-pole	Polyester resin	black handle, black protective collar	– –	2 x 9 ... 21 (M32), 1 x 4 ... 13 (M20)	**8146/5-V11-304-00-0010**	1,975
	Polyester resin	red handle, yellow protective collar	– –	2 x 9 ... 21 (M32), 1 x 4 ... 13 (M20)	**8146/5-V11-304-00-1010**	1,975
	Polyester resin	red handle, yellow protective collar	with N-terminal	2 x 9 ... 21 (M32), 1 x 4 ... 13 (M20)	**8146/5-V11-104-00-0110**	2,621
25 A, 3-pole + N	Polyester resin	black handle, black protective collar	– –	2 x 9 ... 21 (M32), 1 x 4 ... 13 (M20)	**8146/5-V11-404-00-0010**	2,108
	Polyester resin	red handle, yellow protective collar	– –	2 x 9 ... 21 (M32), 1 x 4 ... 13 (M20)	**8146/5-V11-404-00-1010**	2,108
25 A, 6-pole	Polyester resin	black handle, black protective collar	– –	4 x 7 ... 17 (M25), 1 x4 ... 13 (M20)	**8146/5-V11-604-60-0010**	2,839
	Polyester resin	red handle, yellow protective collar	– –	4 x 7 ... 17 (M25), 1 x4 ... 13 (M20)	**8146/5-V11-604-60-1010**	2,839

Reversing switches are available only in V11, not as safety switches V37.

Technical Data

Design	25 A
Mechanical data	
Degree of protection	IP66 acc. to IEC/EN 60529
Enclosure cover	V11: In switching position ON locked, in OFF position removable
Handle	Can be locked with 3 padlocks in 0-position
Mounting / Installation	
Cable entries	Standard: In polyamide, Series 8161 Special: In metal
Main contacts	
Electrical data	
Rated operational voltage	690 V AC
Rated insulation voltage	690 V
Rated operational current	25 A

Technical Data

Switching capacity — acc. to IEC/EN 60947-3; DIN VDE 0660, part 107

	AC-3		AC-23	
U_e	I	P	I	P
230 V ~	25 A	5.5 kW		
400 V ~	25 A	11.0 kW		
440 V ~	25 A	11.0 kW		
500 V ~ 690 V ~	25 A	15.0 kW	25 A	22.0 kW

	DC-1, DC-23	DC-13 (L/R = 300 ms)	
U_e	I	U_e	I
220 V	25 A[3)]	250 V	1.1 A
120 V	25 A[2)]	125 V	2.2 A
60 V	25 A[1)]	60 V	5.0 A

[1)] 1 conducting path
[2)] 2 conducting paths in series
[3)] 3 conducting paths in series

Service life of electrical / mechanical parts — 40.000 operations

Max. short-circuit protection — 35 A, tripping characteristic: gG acc. to IEC/EN 60291-1

Auxiliary contacts

Electrical data

Rated operating voltage — 500 V AC

Rated operational current — 10 A

Mounting / Installation

Terminals — 4 ... 6 mm² finely stranded / solid

Ambient conditions 25 A

Type 8146/5-V..-	No. of poles		max. current [A]	Conductor cross-section [1)] [mm²]		Temperature class / Perm. ambient temperature
	Main contacts	Auxiliary contacts		min.	max.	
304-...	3	0	25	4	6	**T6: -40 ... +40 °C** T5: -40 ... +55 °C [2)]
104-...	3	0				
404-...	4	0	25	4	6	T5: -40 ... +51 °C [2)]
	4	0	25	6	6	**T6: -40 ... +44 °C** T5: -40 ... +52 °C T5: -40 ... +59 °C [2)]
604-...	6	2	22.5	4	6	T6: -40 ... +41 °C T5: -40 ... +56 °C [2)]
	6	2	25	4	6	T5: -40 ... +49 °C [2)]
	6	2	25	6	6	**T6: -40 ... +42 °C** T5: -40 ... +50 °C T5: -40 ... +57 °C [2)]
	6	0	20	4	6	T6: -40 ... +46 °C T5: -40 ... +61 °C [2)] T5: -40 ... +52 °C
	6	0	22.5	4	6	T5: -40 ... +53 °C [2)] T5: -40 ... +48 °C
	6	0	25	4	6	T5: -40 ... +45 °C
	6	0	25	6	6	T5: -40 ... +52 °C [2)] T5: -40 ... +48 °C

[1)] Engineering note:
The maximum conductor cross-sections given were determined using the H07V.
The minimum bending radius was assumed to be 4 x outer diameter in accordance with VDE 0298-3.
[2)] only with heat-resistant cable > 70 °C on cable entries or/and > 85 °C on clamping points
Grease: specified on rating plate

Load disconnect switch
Series 8146/5-V11

Selection Table

Version	Enclosure material	Equipment		Cable dia. range [mm]	Order number	Weight
		Colour	Additional device			kg
40 A, 3-pole	Polyester resin	black handle, black protective collar	– –	2 x 12 ... 28 (M40), 1 x 4 ... 13 (M20)	**8146/5-V11-305-00-0010-K**	5,210
	Polyester resin	red handle, yellow protective collar	– –	2 x 12 ... 28 (M40), 1 x 4 ... 13 (M20)	**8146/5-V11-305-00-1010-K**	5,210
40 A, 3-pole + N	Polyester resin	black handle, black protective collar	– –	2 x 12 ... 28 (M40), 1 x 4 ... 13 (M20)	**8146/5-V11-405-00-0010-K**	7,214
	Polyester resin	red handle, yellow protective collar	– –	2 x 12 ... 28 (M40), 1 x 4 ... 13 (M20)	**8146/5-V11-405-00-1010-K**	7,214
40 A, 6-pole	Polyester resin	black handle, black protective collar	– –	4 x 12 ... 28 (M40), 1 x 4 ... 13 (M20)	**8146/5-V11-605-00-0010-K**	9,000
	Polyester resin	red handle, yellow protective collar	– –	4 x 12 ... 28 (M40), 1 x 4 ... 13 (M20)	**8146/5-V11-605-00-1010-K**	9,000

Reversing switches are available only in V11, not as safety switches V37.

Technical Data

Design	40 A
Mechanical data	
Degree of protection	IP66 acc. to IEC/EN 60529
Enclosure cover	V11: In switching position ON locked, in OFF position removable
Handle	Can be locked with 3 padlocks in 0-position
Mounting / Installation	
Cable entries	Standard: In polyamide, Series 8161 Special: In metal
Main contacts	
Electrical data	
Rated operational voltage	690 V AC
Rated insulation voltage	750 V
Rated operational current	40 A

Technical Data

Switching capacity — acc. to IEC/EN 60947-3; DIN VDE 0660, part 107

	AC-3	
U_e	I	P
240 V ~	40 A	11.0 kW
400 V ~	40 A	22.0 kW
440 V ~	40 A	22.0 kW
500 V ~	40 A	22.0 kW
690 V ~	40 A	37.0 kW

	DC-23, DC-1
U_e	I
220 V	40 A[3]
120 V	40 A[2]
60 V	40 A[1]

[1] 1 conducting path
[2] 2 conducting paths in series
[3] 3 conducting paths in series

Service life of electrical / mechanical parts — 40.000 operations

Max. short-circuit protection — 80 A, tripping characteristic: gG acc. to IEC/EN 60291-1

Auxiliary contacts

Electrical data

Rated operating voltage — 500 V AC

Rated operational current — 6 A

Mounting / Installation

Terminals — 1.5 ... 2.5 mm² finely stranded / solid

Ambient conditions 40 A

Type 8146/5-V..-	No. of poles		max. current [A]	Conductor cross-section 1) [mm²]		Temperature class / Perm. ambient temperature
	Main contacts	Auxiliary contacts		min.	max.	
305-...-K	3	0	40	10	25	**T6: -40 ... +48 °C** T6: -40 ... +51 °C[2] T5: -40 ... +66 °C [2]
405-...-K	4	0	40	10	25	**T6: -40 ... +45 °C** T6: -40 ... +48 °C[2] T5: -40 ... +63 °C [2]
605-...-K	6	0	40	10	25	**T6: -40 ... +47 °C** T5: -40 ... +51 °C T5: -40 ... +62 °C [2]

[1] Engineering note:
The maximum conductor cross-sections given were determined using the H07V.
The minimum bending radius was assumed to be 4 x outer diameter in accordance with VDE 0298-3.
[2] only with heat-resistant cable > 70 °C on cable entries or/and > 85 °C on clamping points
Grease: specified on rating plate

Load disconnect switch
Series 8146/5-V11

Selection Table

Version	Enclosure material	Equipment		Cable dia. range [mm]	Order number	Weight
		Colour	Additional device			kg
63 / 80 A, 3-pole	Polyester resin	black handle, black protective collar	– –	2 x 16 ... 35 (M50), 1 x 4 ... 13 (M20)	**8146/5-V11-306-00-0010-K**	5,315
	Polyester resin	red handle, yellow protective collar	– –	2 x 16 ... 35 (M50), 1 x 4 ... 13 (M20)	**8146/5-V11-306-00-1010-K**	5,315
63 / 80 A, 3-pole + N	Polyester resin	black handle, black protective collar	– –	2 x 16 ... 35 (M50), 1 x 4 ... 13 (M20)	**8146/5-V11-406-00-0010-K**	7,860
	Polyester resin	red handle, yellow protective collar	– –	2 x 16 ... 35 (M50), 1 x 4 ... 13 (M20)	**8146/5-V11-406-00-1010-K**	7,860
63 / 80 A, 6-pole	Polyester resin	black handle, black protective collar	– –	4 x 16 ... 35 (M50), 1 x 4 ... 13 (M20)	**8146/5-V11-606-00-0010**	12,473
	Polyester resin	red handle, yellow protective collar	– –	4 x 16 ... 35 (M50), 1 x 4 ... 13 (M20)	**8146/5-V11-606-00-1010**	12,473

Reversing switches are available only in V11, not as safety switches V37.

Technical Data

Design	63 / 80 A
Mechanical data	
Degree of protection	IP66 acc. to IEC/EN 60529
Enclosure cover	V11: In switching position ON locked, in OFF position removable
Handle	Can be locked with 3 padlocks in 0-position
Mounting / Installation	
Cable entries	Standard: In polyamide, Series 8161 Special: In metal
Main contacts	
Electrical data	
Rated operational voltage	500 V AC (80 A) / 690 V AC (63 A)
Rated insulation voltage	750 V
Rated operational current	63 / 80 A
Switching capacity	acc. to IEC/EN 60947-3; DIN VDE 0660, part 107

	AC-3		AC-3	
U_e	I	P	I	P
230 V ~	63 A	18.5 kW	80 A	22.0 kW
400 V ~	63 A	30.0 kW	80 A	45.0 kW
440 V ~	63 A	37.0 kW	80 A	45.0 kW
500 V ~	63 A	37.0 kW	80 A	55.0 kW
690 V ~	63 A	55.0 kW		

	DC-23, DC-1
U_e	I
220 V	80 A[3)]
120 V	80 A[2)]
60 V	80 A[1)]

[1)] 1 conducting path
[2)] 2 conducting paths in series
[3)] 3 conducting paths in series

Technical Data	
Service life of electrical / mechanical parts	40.000 operations
Max. short-circuit protection	63 A: 125 A, 80 A: 160 A, tripping characteristic: gG according to IEC/EN 60291-1
Auxiliary contacts	
Electrical data	
Rated operating voltage	500 V AC
Rated operational current	6 A
Mounting / Installation	
Terminals	1.5 ... 2.5 mm² finely stranded / solid

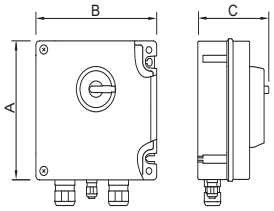
Ambient conditions 63 / 80 A

Type 8146/5-V..-	No. of poles		max. current [A]	Conductor cross-section [1] [mm²]		Temperature class / Perm. ambient temperature
	Main contacts	Auxiliary contacts		min.	max.	
306-...-K	3	0	50	10	25	T6: -40 ... +43 °C
	3	0	63	16	25	**T6: -40 ... +42 °C** T5: -40 ... +57 °C [2]
	3	0	80	25	25	**T6: -40 ... +40 °C** T5: -40 ... +44 °C T5: -40 ... +55 °C [2]
406-...-K	4	0	63	35	50	**T6: -40 ... +55 °C** T5: -40 ... +70 °C [2]
	4	0	63	50	50	**T6: -40 ... +57 °C** T5: -40 ... +72 °C [2]
	4	0	80	35	50	**T6: -40 ... +45 °C** T5: -40 ... +50 °C T5: -40 ... +60 °C [2]
	4	0	80	50	50	**T6: -40 ... +50 °C** T5: -40 ... +54 °C T5: -40 ... +65 °C [2]
606-...	6	0	50	10	50	T6: -40 ... +41 °C T5: -40 ... +56 °C [2]
	6	0	63	16	50	T6: -40 ... +41 °C T5: -40 ... +56 °C [2]
	6	0	63	25	50	**T6: -40 ... +47 °C** T5: -40 ... +62 °C [2]
	6	0	80	25	50	T5: -40 ... +51 °C [2]
	6	0	80	35	50	**T6: -40 ... +43 °C** T5: -40 ... +58 °C [2]

[1] Engineering note:
The maximum conductor cross-sections given were determined using the H07V.
The minimum bending radius was assumed to be 4 x outer diameter in accordance with VDE 0298-3.
[2] only with heat-resistant cable > 70 °C on cable entries or/and > 85 °C on clamping points
Grease: specified on rating plate

Load disconnect switch
Series 8146/5-V11

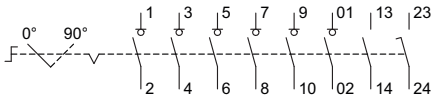
Dimensional drawings (all dimensions in mm) - subject to alterations



04120E00

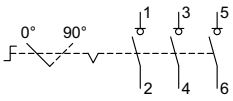
			Dimensions [mm] A	B	C
3-pole	10 A	8146/5-V11-300-00-... 8146/5-V11-400-..-...	112.5 112.5	112.5 112.5	131 131
	16 A	8146/5-V11-302-..-... 8146/5-V11-402-..-... 8146/5-V11-102-..-...	170 170 170	112.5 112.5 170	132 132 172
	20 A	8146/5-V11-303-..-... 8146/5-V11-403-..-...	170 170	170 170	132 132
	25 A	8146/5-V11-304-..-... 8146/5-V11-104-..-... 8146/5-V11-404-..-...	170 227 170	170 170 170	132 171 132
	40 A	8146/5-V11-305-....-K 8146/5-V11-405-..-..-...-K	340.5 340.5	170 340.5	176.5 195
	63 / 80 A	8146/5-V11-306-...-K 8146/5-V11-406-..-...-K	340.5 340.5	170 340.5	195 195
6-pole	25 A	8146/5-V11-604-..-...	227	170	172
	40 A	8146/5-V11-605-....-K	340.5	340.5	205
	63 / 80 A	8146/5-V11-606-...	681.5	340.5	205

Circuit diagrams



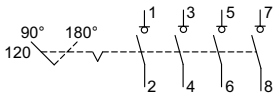
15622E00

-V..-6..-60-..
6-pole + 1 NO (1x ON delayed - OFF leading / 1 x switching normally)



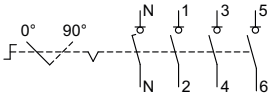
15581E00

-V..-3..-00-..
3-pole



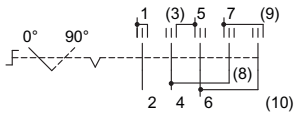
01846E00

-V11-4..-00
3-pole + N



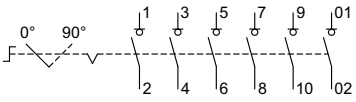
15582E00

-V11-400-00
3-pole + N



12196E00

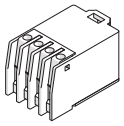
-V11-102
-V11-104
3-pole reversing switch



15579E00

-V..-6..-00-..
6-pole

Accessories and Spare Parts

Designation	Figure	Description	Art. no.	Weight kg
Auxiliary contact	 12446E00	2 NC contacts (8080/1-3) [2]	**168356**	0.026
		1 NC contact + 1 NO contact (8080/1-1) [1]	**168351**	0.026
		2 NO contacts (8080/1-4) [2]	**168353**	0.026
		The switching function of the auxiliary contact depends on the installation slot used. [1] Left: delayed (ON), leading (OFF); Right: synchronising [2] Left and right: synchronising		
		Note: The auxiliary contacts can only be retrofitted for 40 A and 63/80 A versions. For all other versions, the auxiliary contact must be ordered separately when placing the order. Retrofitting is not possible for this.		
Auxiliary contact key	 14151E00	for removing the mounted auxiliary contact	**201909**	0.035

E7

- 3-pole horsepower (hp) rated switch
- Suitable for voltages up to 600 V AC/240 V DC – limitations may apply
- Robust, lockable rotary actuator
- Lightweight construction
- Glass fibre reinforced polyester (GRP)
- Suitable for low ambient temperatures
- Enclosure type 3, 4, 4X, IP66
- No conduit seal required
- Class I, Div. 2/AEx Zone 2

MY R. STAHL **7146A**

Our switches are specifically engineered for hazardous locations and harsh environments with a corrosion resistant enclosure and wide temperature range. Ideal for close proximity installation of field equipment such as control panels, motors, skids or machinery. Whether the requirement is for disconnect switches to completely de-energize for service or maintenance tasks, or transfer switches to ensure continuous power supply to essential equipment, our solutions offer unmatched reliability. With our standard solutions, entries are not pre-installed, providing users with the flexibility to customized their own entries based on size, location and type. Built to withstand demanding conditions while ensuring safety and ease of use in various applications.

	NEC® 500 CE Code Appendix J					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Installation in		•				

	CE Code Section 18					
	NEC® 505			NEC® 506		
	Class I					
Zone	0	1	2	20	21	22
Installation in			•			

Selection Table

Product description Product variant			Load disconnect switch fused						
Rated operational voltage AC	Rated operational voltage DC	Nominal power	Temperature class cFMus	Rated operational current	Short circuit protection (sym RMS)	Connection cross section, stranded	Product Type	Art. No.	Weight
480 V	1-pole: 60 V, 2-pole: 125 V, 3-pole: 240 V	60 hp	T4	80 A	20 kA	10 AWG ... 1/0 AWG	7146/5-V11-D07-AA-0000-0	286743	15 kg
600 V	1-pole: 60 V, 2-pole: 125 V	10 hp	T4	15 A	10 kA	14 AWG ... 8 AWG	7146/5-V11-E01-AA-0000-0	286731	4.54 kg
	1-pole: 60 V, 2-pole: 125 V, 3-pole: 240 V	15 hp	T4	25 A	20 kA	12 AWG ... 6 AWG	7146/5-V11-E03-AA-0000-0	286735	5.9 kg
		40 hp	T4	60 A	20 kA	10 AWG ... 1/0 AWG	7146/5-V11-D06-AA-0000-0	286739	15 kg
		75 hp	T4	100 A	25 kA	10 AWG ... 300 kcmil	7146/5-V11-D32-AA-0000-0	286747	20.9 kg
		100 hp	T4	125 A	25 kA	10 AWG ... 300 kcmil	7146/5-V11-D08-AA-0000-0	286751	20.9 kg
	–	20 hp	T4	30 A	10 kA	12 AWG ... 6 AWG	7146/5-V11-E04-AA-0000-0	286737	5.9 kg

Load disconnect switch and manual transfer switch

Series 7146/5-V11

E7

Selection Table

Product description Product variant			Load disconnect switch non-fused						
Rated operational voltage AC	Rated operational voltage DC	Nominal power	Temperature class cFMus	Rated operational current	Short circuit protection (sym RMS)	Connection cross section, stranded	Product Type	Art. No.	Weight
480 V	1-pole: 60 V, 2-pole: 125 V, 3-pole: 240 V	60 hp	T5	80 A	20 kA	10 AWG ... 1/0 AWG	7146/5-V11-D07-00-0000-0	286742	7.71 kg
		100 hp	T4	150 A	25 kA	10 AWG ... 300 kcmil	7146/5-V11-D09-00-0000-0	286754	18.1 kg
600 V	1-pole: 60 V, 2-pole: 125 V	10 hp	T5	15 A	10 kA	14 AWG ... 8 AWG	7146/5-V11-E01-00-0000-0	286730	1.81 kg
	1-pole: 60 V, 2-pole: 125 V, 3-pole: 240 V	15 hp	T5	25 A	20 kA	12 AWG ... 6 AWG	7146/5-V11-E03-00-0000-0	286734	3.63 kg
		40 hp	T5	60 A	20 kA	10 AWG ... 1/0 AWG	7146/5-V11-D06-00-0000-0	286738	7.71 kg
		75 hp	T4	100 A	25 kA	10 AWG ... 300 kcmil	7146/5-V11-D32-00-0000-0	286746	18.1 kg
		100 hp	T4	125 A	25 kA	10 AWG ... 300 kcmil	7146/5-V11-D08-00-0000-0	286750	18.1 kg
	–	20 hp	T5	30 A	10 kA	12 AWG ... 6 AWG	7146/5-V11-E04-00-0000-0	286736	3.63 kg
Product description Product variant			Manual transfer switch fused						
Rated operational voltage AC	Rated operational voltage DC	Nominal power	Temperature class cFMus	Rated operational current	Short circuit protection (sym RMS)	Connection cross section, stranded	Product Type	Art. No.	Weight
480 V	1-pole: 60 V, 2-pole: 125 V, 3-pole: 240 V	60 hp	T4	80 A	20 kA	10 AWG ... 1/0 AWG	7146/5-V11-H07-AA-0500-0	286745	24 kg
600 V	1-pole: 60 V, 2-pole: 125 V	10 hp	T4	15 A	20 kA	14 AWG ... 8 AWG	7146/5-V11-H01-AA-0500-0	286733	6 kg
	1-pole: 60 V, 2-pole: 125 V, 3-pole: 240 V	40 hp	T4	60 A	20 kA	10 AWG ... 1/0 AWG	7146/5-V11-H06-AA-0500-0	286741	21 kg
		75 hp	T4	100 A	25 kA	10 AWG ... 300 kcmil	7146/5-V11-H32-AA-0500-0	286749	40 kg
		100 hp	T4	125 A	25 kA	10 AWG ... 300 kcmil	7146/5-V11-H08-AA-0500-0	286753	40 kg
Product description Product variant			Manual transfer switch non-fused						
Rated operational voltage AC	Rated operational voltage DC	Nominal power	Temperature class cFMus	Rated operational current	Short circuit protection (sym RMS)	Connection cross section, stranded	Product Type	Art. No.	Weight
480 V	1-pole: 60 V, 2-pole: 125 V, 3-pole: 240 V	60 hp	T4	80 A	20 kA	10 AWG ... 1/0 AWG	7146/5-V11-H07-00-0500-0	286744	15 kg
		100 hp	T4	150 A	25 kA	10 AWG ... 300 kcmil	7146/5-V11-H09-00-0500-0	286755	35 kg
600 V	1-pole: 60 V, 2-pole: 125 V	10 hp	T4	15 A	20 kA	14 AWG ... 8 AWG	7146/5-V11-H01-00-0500-0	286732	4 kg
	1-pole: 60 V, 2-pole: 125 V, 3-pole: 240 V	40 hp	T5	60 A	20 kA	10 AWG ... 1/0 AWG	7146/5-V11-H06-00-0500-0	286740	13 kg
		75 hp	T4	100 A	25 kA	10 AWG ... 300 kcmil	7146/5-V11-H32-00-0500-0	286748	35 kg
		100 hp	T4	125 A	25 kA	10 AWG ... 300 kcmil	7146/5-V11-H08-00-0500-0	286752	35 kg

Nominal power (hp) in relation to rated operating voltage 480 V AC

Technical Data				
Variant	**Load disconnect switch fused**	**Manual transfer switch fused**	**Load disconnect switch non-fused**	**Manual transfer switch non-fused**
Explosion Protection				
Area of application	Canada USA	Canada USA	Canada USA	Canada USA
FMus certificate	FM18US0275X	FM18US0275X	FM18US0275X	FM18US0275X
cFM certificate	FM18CA0132X	FM18CA0132X	FM18CA0132X	FM18CA0132X
cFM certificate	FM18CA0132X	FM18CA0132X	FM18CA0132X	FM18CA0132X
Marking FMus	Class I, Div. 2, Groups A,B,C,D; T*; Enclosure Type 3, 4, 4X Temperature class T*, see selection table	Class I, Div. 2, Groups A,B,C,D; T*; Enclosure Type 3, 4, 4X Temperature class T*, see selection table	Class I, Div. 2, Groups A,B,C,D; T*; Enclosure Type 3, 4, 4X Temperature class T*, see selection table	Class I, Div. 2, Groups A,B,C,D; T*; Enclosure Type 3, 4, 4X Temperature class T*, see selection table
Marking cFM	Class I, Div. 2, Groups A,B,C,D; T*; Enclosure Type 3, 4, 4X Temperature class T*, see selection table	Class I, Div. 2, Groups A,B,C,D; T*; Enclosure Type 3, 4, 4X Temperature class T*, see selection table	Class I, Div. 2, Groups A,B,C,D; T*; Enclosure Type 3, 4, 4X Temperature class T*, see selection table	Class I, Div. 2, Groups A,B,C,D; T*; Enclosure Type 3, 4, 4X Temperature class T*, see selection table
Marking cFM note	Zone 2 IIC per Canadian Electrical Code Table 18	Zone 2 IIC per Canadian Electrical Code Table 18	Zone 2 IIC per Canadian Electrical Code Table 18	Zone 2 IIC per Canadian Electrical Code Table 18
Certificates	Canada (FM), USA (FM)	Canada (FM), USA (FM)	Canada (FM), USA (FM)	Canada (FM), USA (FM)
Electrical Data				
Auxiliary contact NC	without	without	without	without
Auxiliary contact NO	without	without	without	without
Additional short-circuit protection			Additional fuse necessary	Additional fuse necessary
Short-circuit protection note			Required back-up fuse in the electrical circuit	Required back-up fuse in the electrical circuit
Frequency range	50 – 60 Hz	50 – 60 Hz	50 – 60 Hz	50 – 60 Hz
Fuse	J-Type For further information, please visit our website	J-Type For further information, please visit our website	Required back-up fuse upstream in the circuit	Required back-up fuse upstream in the circuit
Ambient Conditions				
Ambient temperature	-40°C ... +55°C	-40°C ... +55°C	-50°C ... +55°C	-40°C ... +55°C
Ambient temperature	-40°F ... +131°F	-40°F ... +131°F	-58°F ... +131°F	-40°F ... +131°F
Mechanical Data				
Degree of protection (IP)	IP66	IP66	IP66	IP66
Enclosure type (UL50 & UL50E)	3, 4, 4X	3, 4, 4X	3, 4, 4X	3, 4, 4X
Additional terminal	without	Main contact on terminals	without	Main contact on terminals
Service life, min.	10^5 operating cycles	10^5 operating cycles	10^5 operating cycles	10^5 operating cycles
Handle colour	Black	Black	Black	Black
Protective collar colour	Black	Black	Black	Black
Seal	Silicone, foamed	Silicone, foamed	Silicone, foamed	Silicone, foamed
Lockable in	Three times in 0 position	Three times in 0 position	Three times in 0 position	Three times in 0 position
Components				
Entries	without	without	without	without

E7

Accessories

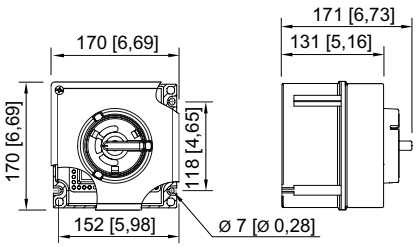
Figure	Description	Art. No.	Weight
Ex e cable glands for MC, MC-HL, combined and "TECK" armouring Series TMC			
	Thread size: NPT1/2 Clamping range: 8.7 ... 12.7 mm Clamping range inch: 0.34 … 0.5 in Nickel-plated brass	254316	220 g
	Thread size: NPT1/2 Clamping range: 13 ... 17 mm Clamping range inch: 0.51 … 0.67 in Nickel-plated brass	254317	280 g
	Thread size: NPT3/4 Clamping range: 15 ... 23.3 mm Clamping range inch: 0.59 … 0.92 in Nickel-plated brass	106090	330 g
	Thread size: NPT1 Clamping range: 19.8 ... 29.2 mm Clamping range inch: 0.78 … 1.15 in Nickel-plated brass	106091	500 g
	Thread size: NPT1-1/4 Clamping range: 27.5 ... 35.2 mm Clamping range inch: 1.08 … 1.39 in Nickel-plated brass	254320	590 g
	Thread size: NPT1-1/2 Clamping range: 33.5 ... 41.1 mm Clamping range inch: 1.32 … 1.62 in Nickel-plated brass	254321	690 g
	Thread size: NPT2 Clamping range: 45 ... 53 mm Clamping range inch: 1.77 … 2.09 in Nickel-plated brass	254323	1.1 kg
	Thread size: NPT2-1/2 Clamping range: 52.1 ... 58.9 mm Clamping range inch: 2.05 … 2.32 in Nickel-plated brass	254324	1.7 kg
	Thread size: NPT2-1/2 Clamping range: 57.1 ... 64.6 mm Clamping range inch: 2.25 … 2.54 in Nickel-plated brass	254325	1.6 kg
	Thread size: NPT3 Clamping range: 64.6 ... 75.3 mm Clamping range inch: 2.54 … 2.96 in Nickel-plated brass	254326	3.5 kg
	Thread size: NPT3-1/2 Clamping range: 74 ... 88.5 mm Clamping range inch: 2.91 … 3.48 in Nickel-plated brass	254327	6.7 kg
Auxiliary contact			
	Note: The auxiliary contacts can only be retrofitted for 40 A, 63 A and 80 A versions. For all other versions, the auxiliary contact must be ordered separately when placing the order. Retrofitting is not possible for this.	–	-
	2 NC (8080/1-3) 250 V AC/DC Max. 6 A 1.5 to 2.5 mm², solid/finely stranded The switching function of the auxiliary contact depends on the installation slot used. Left and right: Synchronising	168356	26 g
	1 NC + 1 NO (8080/1-1) 250 V AC/DC Max. 6 A 1.5 to 2.5 mm², solid/finely stranded The switching function of the auxiliary contact depends on the installation slot used. Left: Delayed (ON), leading (OFF) Right: Synchronising	168351	26 g
	2 NO (8080/1-4) 250 V AC/DC Max. 6 A 1.5 to 2.5 mm², solid/finely stranded The switching function of the auxiliary contact depends on the installation slot used. Left and right: Synchronising	168353	26 g

Spare Parts

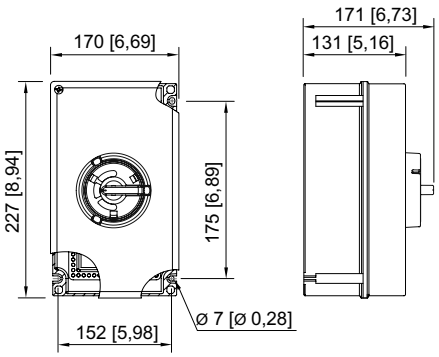
Figure	Description	Art. No.	Weight
Auxiliary contact key			
	For removing installed auxiliary contacts	201909	35 g

Further spare parts on request at r-stahl.com

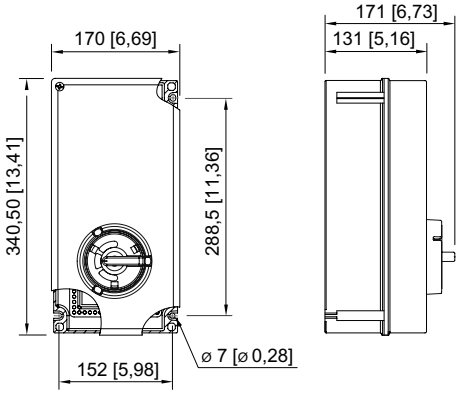
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



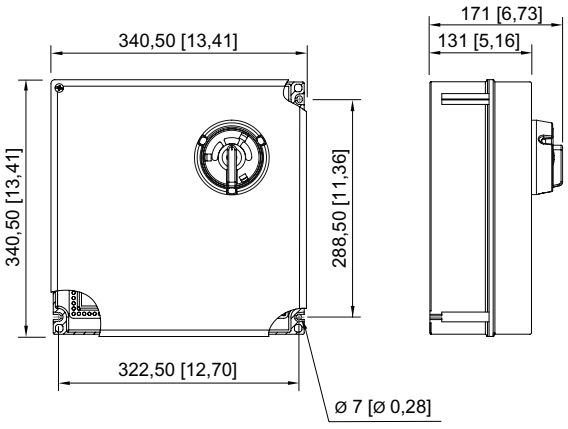
7146/5-V11-E01-00-0000-0
8146/5-V11-E01-00-0000-0
8146/5-V11-E02-00-0000-0



7146/5-V11-E03-00-0000-0
7146/5-V11-E04-00-0000-0
7146/5-V11-H01-00-0500-0
8146/5-V11-E03-00-0000-0
8146/5-V11-E04-00-0000-0
8146/5-V11-H01-00-0500-0

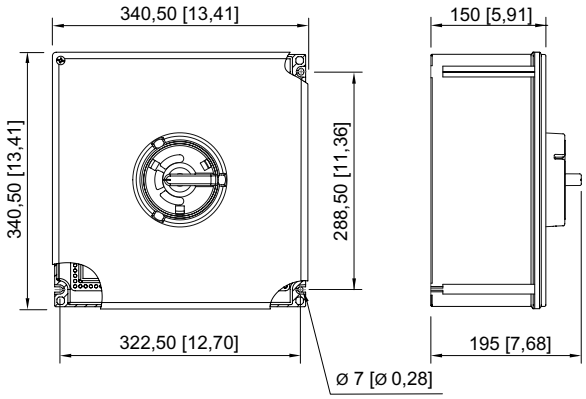


7146/5-V11-E01-AA-0000-0
7146/5-V11-E03-AA-0000-0
7146/5-V11-E04-AA-0000-0

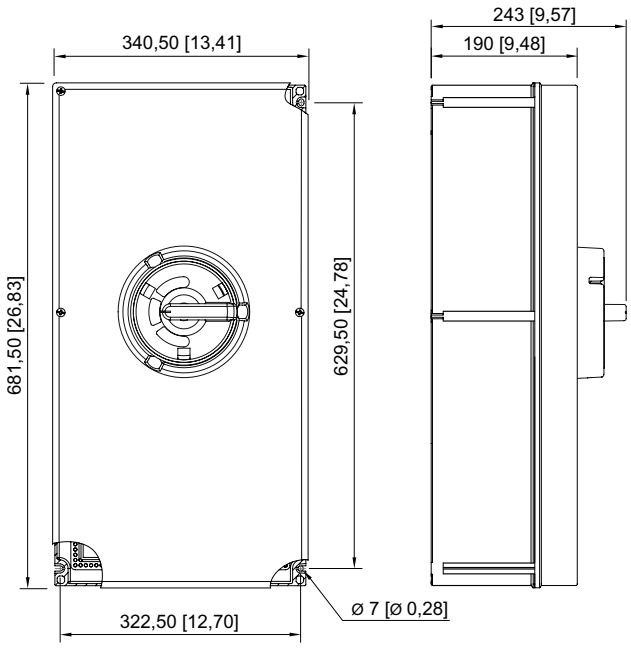


7146/5-V11-H01-AA-0500-0

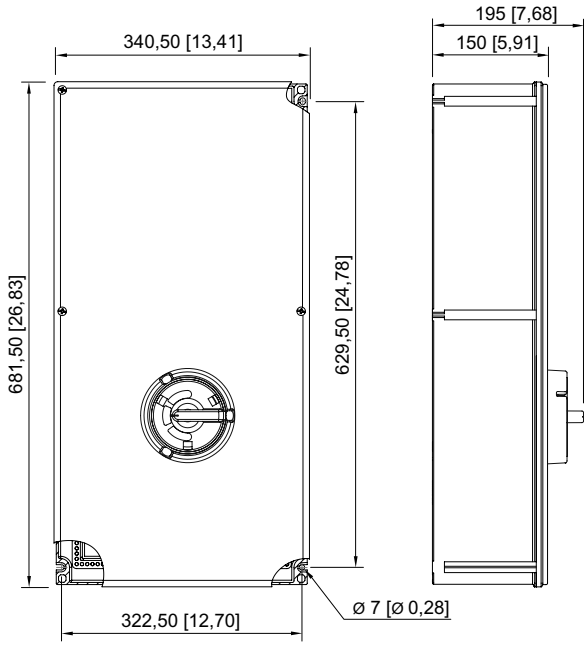
E7



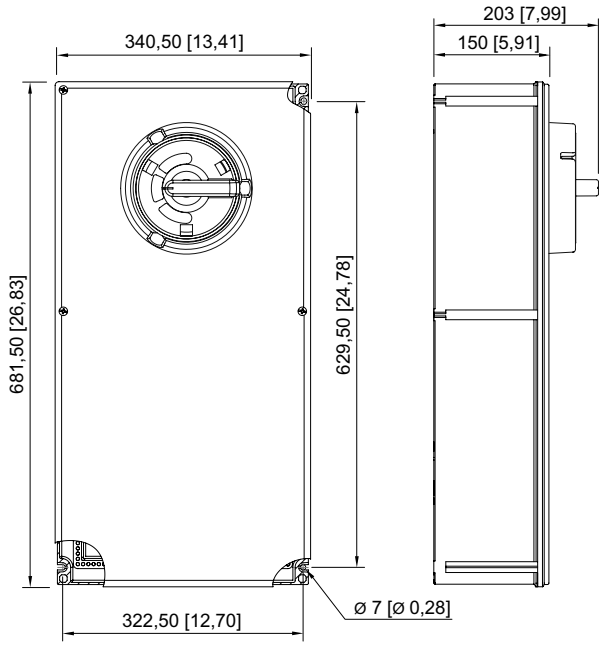
7146/5-V11-D06-00-0000-0
7146/5-V11-D07-00-0000-0
8146/5-V11-D06-00-0000-0
8146/5-V11-D07-00-0000-0



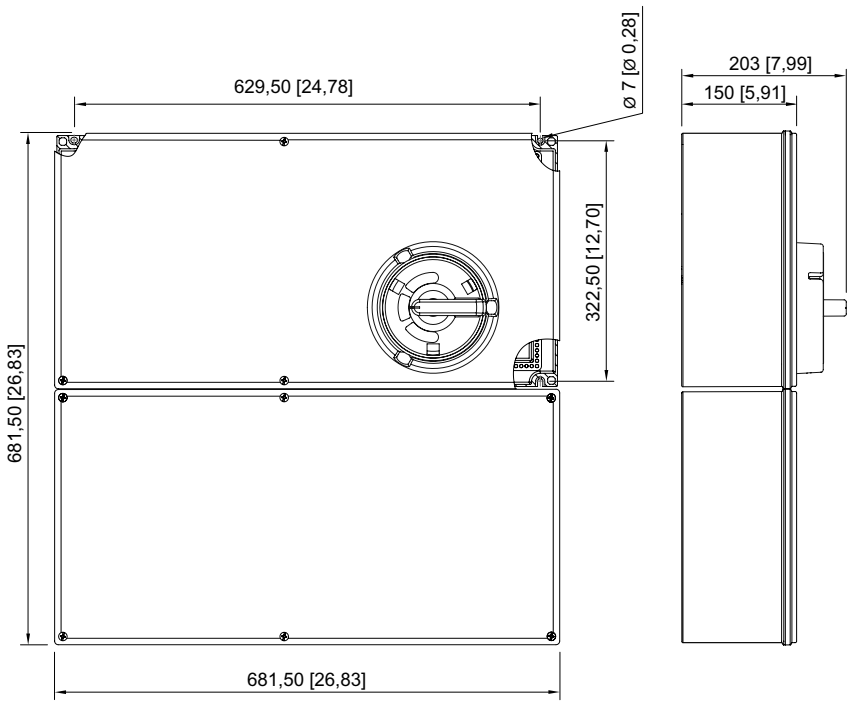
7146/5-V11-D32-00-0000-0
7146/5-V11-D08-00-0000-0
7146/5-V11-D09-00-0000-0
7146/5-V11-D32-AA-0000-0
7146/5-V11-D08-AA-0000-0
8146/5-V11-D32-00-0000-0
8146/5-V11-D08-00-0000-0
8146/5-V11-D09-00-0000-0



7146/5-V11-D06-AA-0000-0
7146/5-V11-D07-AA-0000-0

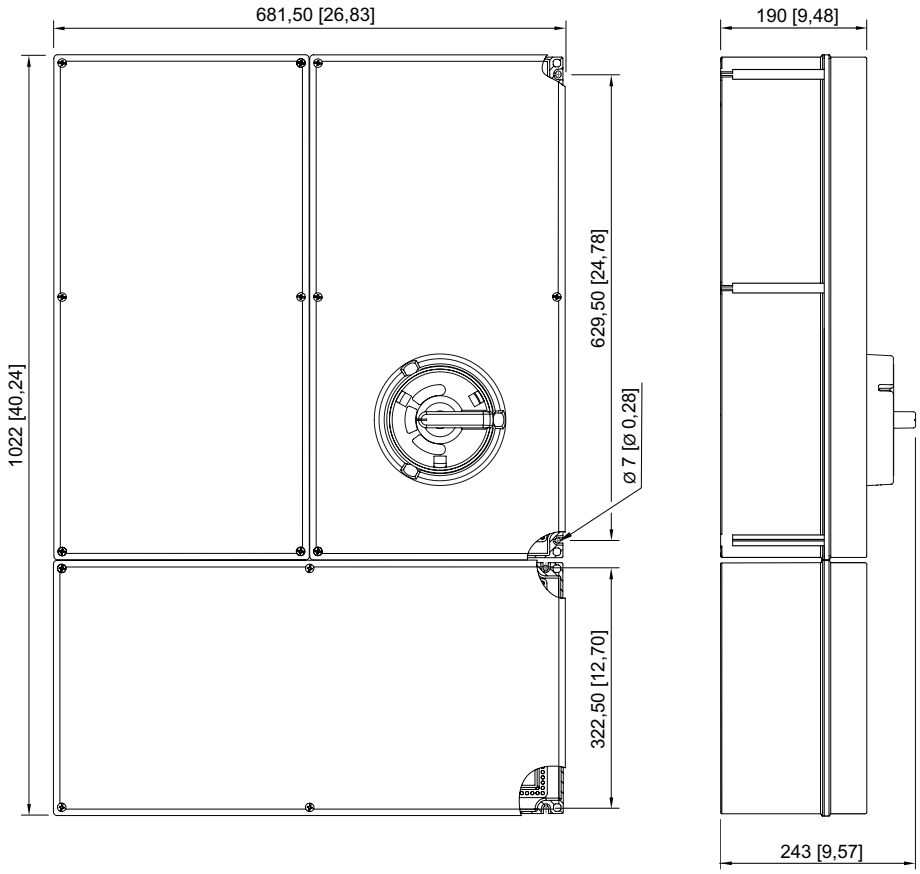


7146/5-V11-H06-00-0500-0
7146/5-V11-H07-00-0500-0
8146/5-V11-H06-00-0500-0
8146/5-V11-H07-00-0500-0



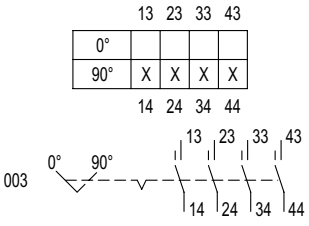
7146/5-V11-H06-AA-0500-0
7146/5-V11-H07-AA-0500-0

E7

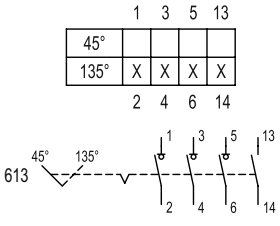


7146/5-V11-H08-00-0500-0
7146/5-V11-H08-AA-0500-0
7146/5-V11-H09-00-0500-0
7146/5-V11-H32-00-0500-0
7146/5-V11-H32-AA-0500-0
8146/5-V11-H08-00-0500-0
8146/5-V11-H09-00-0500-0
8146/5-V11-H32-00-0500-0

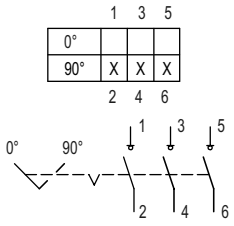
Switching Arrangements of Load Disconnect Switches
Technical Drawings – Subject to Alterations



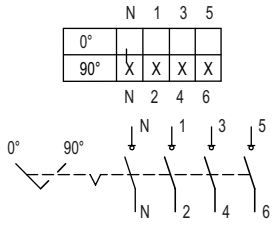
4-pole
25 A, 30 A and 32 A



4-pole
15 A and 16 A



3-pole
60 A, 63 A and 80 A



3-pole + N
100 A, 125 A and 150 A