

# Load disconnect switches and motor starters

STAHL

## Safety switch

180 A

8146/5-V37-310-51-0010-K Art. No. 213476



- Large current range from 10 A to 180 A
- Can be used with conventional drives or with variable-frequency drives
- Intelligent design: A single rotary actuator for actuating the main and auxiliary contacts,  $\geq 20$  ms leading auxiliary contact for safe disconnection
- Designed in accordance with IEC/EN 62626-1, class 1
- The rotary actuator can be locked in the 0-position with three padlocks
- Cover can only be removed in the I-position

MY R. STAHL 8146L



R. STAHL Series 8146/5-V37 safety switches safely disconnect machines and system parts from the energy supply for cleaning and repair as prescribed. All of the installed load disconnect switches have AC-3 switching capacity. The switches can be locked in the 0-position using padlocks.

## Technical Data

### Explosion Protection

|                                 |                                                                          |
|---------------------------------|--------------------------------------------------------------------------|
| Area of application             | European Union (ATEX)<br>IECEx                                           |
| Application range (zones)       | 1, 2, 21, 22                                                             |
| IECEx gas certificate           | IECEx PTB 06.0090                                                        |
| IECEx gas explosion protection  | Ex db eb IIC T4 Gb                                                       |
| IECEx dust certificate          | IECEx PTB 06.0090                                                        |
| IECEx dust explosion protection | Ex tb IIIC T130 °C Db                                                    |
| ATEX gas certificate            | PTB 01 ATEX 1024                                                         |
| ATEX gas explosion protection   | Ex II 2 G Ex db eb IIC T4 Gb                                             |
| ATEX dust certificate           | PTB 01 ATEX 1024                                                         |
| ATEX dust explosion protection  | Ex II 2 D Ex tb IIIC T130 °C Db                                          |
| Certificates                    | ATEX (PTB), China (NEPSI), IECEx (PTB), India (PESO), Korea (KTL)        |
| Declaration of conformity       | ATEX (EUK), China (CCC)                                                  |
| Notes                           | Product label may vary. Series devices are labelled with ATEX and IECEx. |

### Electrical Data

|                               |              |
|-------------------------------|--------------|
| Rated operational voltage AC  | 400 V        |
| Rated operational current     | 180 A        |
| Switching capacity AC-3 230 V | 55 kW        |
| Switching capacity AC-3 400 V | 90 kW        |
| Auxiliary contact NC          | 1 NC         |
| Auxiliary contact NO          | 1 NO/delayed |
| Frequency range               | 50 – 60 Hz   |

### Ambient Conditions

|      |                                                                                                                                   |
|------|-----------------------------------------------------------------------------------------------------------------------------------|
| Note | You can find information about the ambient temperature online at <a href="http://r-stahl.com">r-stahl.com</a> . MY R. STAHL 8146L |
|------|-----------------------------------------------------------------------------------------------------------------------------------|

### Ambient conditions

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| Ambient conditions                                                                                                                                                                                                                                                                                                                                                                    | Number of poles |                    | Max. current (A) | Conductor cross-section <sup>1)</sup> (mm <sup>2</sup> ) |      | Temperature class/<br>perm. ambient temperature |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|------------------|----------------------------------------------------------|------|-------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                       | Main contacts   | Auxiliary contacts |                  | min.                                                     | max. |                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                       | 3               | 1                  | 180              | 95                                                       | 120  | T4: -40 to +40 °C <sup>2)</sup>                 |
|                                                                                                                                                                                                                                                                                                                                                                                       |                 |                    | 180              | 120                                                      | 120  | T4: -40 to +50 °C <sup>2)</sup>                 |
| <sup>1)</sup> Project engineering note:<br>The maximum conductor cross-sections given were determined using the H07V.<br>The minimum bending radius was assumed to be 4 x outer diameter in accordance with VDE 0298-3.<br><sup>2)</sup> Only with heat-resistant conductor > 70 °C at cable entries and/or > 85 °C at clamping units<br><b>Bold:</b> Information on the rating plate |                 |                    |                  |                                                          |      |                                                 |

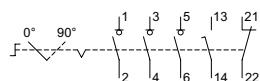
### Mechanical Data

|                                                |                                                                                                            |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Degree of protection (IP)                      | IP66                                                                                                       |
| Degree of protection note                      | according to EN/IEC 60529                                                                                  |
| Enclosure material                             | Polyester resin, Glass fibre reinforced                                                                    |
| Min. solid conn. cr.-sect. AWG                 | AWG 3/0                                                                                                    |
| Min. f.stra. con. cr.-sec. AWG                 | AWG 3/0                                                                                                    |
| Connection terminal auxiliary contact min. AWG | AWG 18                                                                                                     |
| Connection cross section                       | 95 ... 120 mm <sup>2</sup>                                                                                 |
| Auxiliary connection connection terminals      | 0.75 ... 2.5 mm <sup>2</sup>                                                                               |
| Connection cross-section note                  | Depending on the application; for more detailed information, see the operating instructions at r-stahl.com |
| Construction type                              | Compact design                                                                                             |
| Dimension A                                    | 681.5 mm                                                                                                   |
| Dimension A inch                               | 26.83 in                                                                                                   |
| Dimension B                                    | 340.5 mm                                                                                                   |
| Dimension B inch                               | 13.41 in                                                                                                   |
| Dimension C                                    | 205 mm                                                                                                     |
| Dimension C inch                               | 8.07 in                                                                                                    |
| Handle colour                                  | Black shroud and handle                                                                                    |
| Seal                                           | Silicone, foamed                                                                                           |
| Lockable in                                    | Three times in 0 position                                                                                  |
| Detailed number of poles                       | 3-pole                                                                                                     |
| Weight                                         | 14.4 kg                                                                                                    |
| Weight                                         | 31.66 lb                                                                                                   |

### Components

|             |                                                 |
|-------------|-------------------------------------------------|
| Entry type  | Standard 8161, moulded material                 |
| Cable gland | 2 x M63 Ø 28 ... 48 mm<br>1 x M20 Ø 4 ... 13 mm |

### Technical Drawings – Subject to Alterations



81.../5-V...-3...-51-..

3-pole + 1 NO

(1x ON delayed – OFF leading), 1 NC

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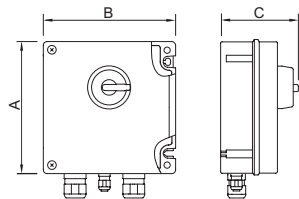
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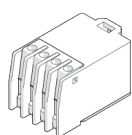
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Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



## Accessories

### Auxiliary contact



2 NC (8080/1-3)  
250 V AC/DC  
Max. 6 A  
1.5 to 2.5 mm<sup>2</sup>, solid/finely stranded  
The switching function of the auxiliary contact depends on the installation slot used.  
Left and right: Synchronising

Art. No.

168356

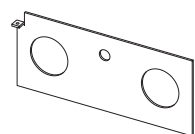
1 NC + 1 NO (8080/1-1)  
250 V AC/DC  
Max. 6 A  
1.5 to 2.5 mm<sup>2</sup>, solid/finely stranded  
The switching function of the auxiliary contact depends on the installation slot used.  
Left: Delayed (ON), leading (OFF)  
Right: Synchronising

168351

2 NO (8080/1-4)  
250 V AC/DC  
Max. 6 A  
1.5 to 2.5 mm<sup>2</sup>, solid/finely stranded  
The switching function of the auxiliary contact depends on the installation slot used.  
Left and right: Synchronising

168353

### Brass plate



SZ S73/083/093  
2 x M63, 1 x M20

Art. No.

227586

## Spare Parts

### Auxiliary contact key



For removing installed auxiliary contacts

Art. No.

201909

We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.