

# Load disconnect switches and motor starters

STAHL

Safety switch

125 A / 160 A

8146/5-V37-308-51-1010 Art. No. 212210



- 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 T6 / T5 Gb                                                  |
| IECEx dust certificate          | IECEx PTB 06.0090                                                        |
| IECEx dust explosion protection | Ex tb IIIC T80 °C / T95 °C Db                                            |
| ATEX gas certificate            | PTB 01 ATEX 1024                                                         |
| ATEX gas explosion protection   | II 2 G Ex db eb IIC T6 / T5 Gb                                           |
| ATEX dust certificate           | PTB 01 ATEX 1024                                                         |
| ATEX dust explosion protection  | II 2 D Ex tb IIIC T80 °C / T95 °C Db                                     |
| Certificates                    | ATEX (PTB), IECEx (PTB), India (PESO), Korea (KGS), 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  | 690 V / 400 V         |
| Rated operational current     | 125 A / 160 A         |
| Frequency range               | 50 – 60 Hz            |
| Switching capacity AC-3 230 V | 37 kW / 45 kW         |
| Switching capacity AC-3 400 V | 55 kW / 90 kW         |
| Switching capacity AC-3 440 V | 75 kW / 90 kW         |
| Switching capacity AC-3 500 V | 75 kW / 90 kW (150 A) |
| Switching capacity AC-3 690 V | 110 kW / -- kW        |
| Auxiliary contact NC          | 1 NC                  |
| Auxiliary contact NO          | 1 NO/delayed          |

### 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 |
|------|-----------------------------------------------------------------------------------------------------------------------------------|

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## Ambient conditions

|                                                                                                                                                                                                                                                                                                                                                                                       |                 |                    |                  |                                                          |                                                                           |                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|------------------|----------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 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                  | 125              | 95                                                       | 150                                                                       | <b>T6: -40 to +47 °C</b><br>T5: -40 to +62 °C <sup>2)</sup><br>T4: -40 to +72 °C <sup>2)</sup> |
|                                                                                                                                                                                                                                                                                                                                                                                       |                 |                    | 160              | 95                                                       | 120                                                                       | <b>T5: -40 to +40 °C</b><br>T5: -40 to +50 °C <sup>2)</sup><br>T4: -40 to +55 °C <sup>2)</sup> |
| 160                                                                                                                                                                                                                                                                                                                                                                                   |                 |                    | 120              | 120                                                      | T5: -40 to +45 °C<br>T5: -40 to +49 °C<br>T4: -40 to +60 °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                                                                    |
| Solid con. cross-section min.2                 | 95 mm <sup>2</sup>                                                                                         |
| Min. fin.str. conn. cr.-sec. 2                 | 95 mm <sup>2</sup>                                                                                         |
| Min. solid conn. cr.-sect. AWG                 | AWG 3/0                                                                                                    |
| Min. solid con. cr.-sect. AWG2                 | AWG 3/0                                                                                                    |
| Min. f.stra. con. cr.-sec. AWG                 | AWG 3/0                                                                                                    |
| F.stranded conn. cr.-sect. AWG                 | AWG 300                                                                                                    |
| Min. f.str. con. cr.-sec. AWG2                 | AWG 3/0                                                                                                    |
| Connection terminal auxiliary contact min. AWG | AWG 18                                                                                                     |
| Seal                                           | Silicone, foamed                                                                                           |
| Detailed number of poles                       | 3-pole                                                                                                     |
| Connection cross section                       | 95 ... 150 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                              | Standard                                                                                                   |
| Dimension A                                    | 681.5 mm                                                                                                   |
| Dimension A inch                               | 26.83 in                                                                                                   |
| Dimension B                                    | 681.5 mm                                                                                                   |
| Dimension B inch                               | 26.83 in                                                                                                   |
| Dimension C                                    | 205 mm                                                                                                     |
| Dimension C inch                               | 8.07 in                                                                                                    |
| Handle colour                                  | Yellow shroud, red handle                                                                                  |
| Lockable in                                    | Three times in 0 position                                                                                  |

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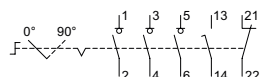
### Mechanical Data

|        |          |
|--------|----------|
| Weight | 18.5 kg  |
| Weight | 40.79 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

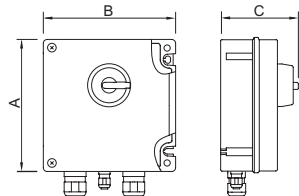


81.../5--V...-3...-51--

3-pole + 1 NO

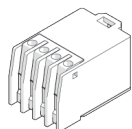
(1x ON delayed – OFF leading), 1 NC

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



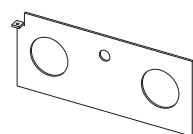
## Accessories

### Auxiliary contact



|                                                                                                                                                                                                                                                                |                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 2 NC (8080/1-3)<br>250 V AC/DC<br>Max. 6 A<br>1.5 to 2.5 mm <sup>2</sup> , solid/finely stranded<br>The switching function of the auxiliary contact depends on the installation slot used.<br>Left and right: Synchronising                                    | Art. No.<br>168356 |
| 1 NC + 1 NO (8080/1-1)<br>250 V AC/DC<br>Max. 6 A<br>1.5 to 2.5 mm <sup>2</sup> , solid/finely stranded<br>The switching function of the auxiliary contact depends on the installation slot used.<br>Left: Delayed (ON), leading (OFF)<br>Right: Synchronising | 168351             |
| 2 NO (8080/1-4)<br>250 V AC/DC<br>Max. 6 A<br>1.5 to 2.5 mm <sup>2</sup> , solid/finely stranded<br>The switching function of the auxiliary contact depends on the installation slot used.<br>Left and right: Synchronising                                    | 168353             |

### Brass plate



|                                    |                    |
|------------------------------------|--------------------|
| SZ S73/083/093<br>2 x M63, 1 x M20 | Art. No.<br>227586 |
|------------------------------------|--------------------|

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Spare Parts

| Auxiliary contact key                                                            |                                           | Art. No. |
|----------------------------------------------------------------------------------|-------------------------------------------|----------|
|  | For removing installed auxiliary contacts | 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.