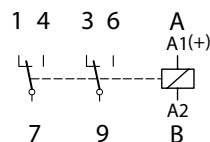
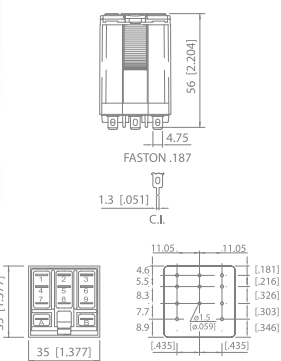


## RP2010

### 2 CHANGE-OVER CONTACTS, 8 FASTON, DPDT

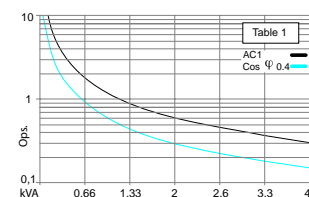


#### Dimensions mm [in]

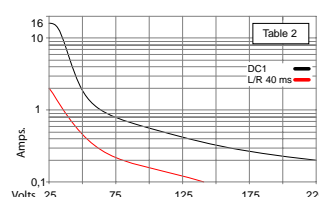


General application 16 A 400 V AC-1 0,5 A 110 V DC-1  
16 A 30 V DC-1 0,2 A 220 V DC-1

#### Electric life, ops x 10<sup>6</sup>



#### Maxim load in VDC



#### Standard types

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240), 400  
DC: 24, 48, 110, 220  
RP2010NN, RP2010LN, RP2010NR  
RP2010LD, RP2010LE, RP2010LU  
Sockets: SPT30D, SPW30F, SPP30X, SPP30F

#### Contacts

Max. switching current ..... 16 A  
Max. peak inrush current, 20ms ..... 40 A  
Max. Switching voltage ..... 400 V  
Max. VAC load (table 1) ..... 4 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi (std)

#### Insulation

Contact  
Open contact ..... 1000 V  
Contact/contact ..... 4 kV  
Contact/coil ..... 4 kV  
Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 4 kV / 3



#### Specifications

Pick-up time/bounce time ..... 20 ms / ≤ 3 ms  
Release time/bounce time ..... 10 ms / ≤ 1 ms  
Ambient temperature, operation/storage ..... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 90 g.

#### Coils

Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... > 0,1 x Un  
Nominal power ..... 2,4 VA (VAC) / 1,4 W (VDC)

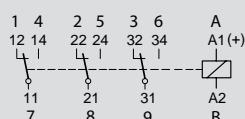
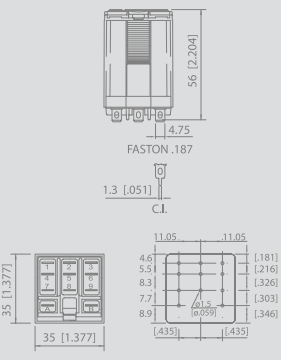
VAC	Ω	mA	VDC	Ω	mA
24	65	100	24	414	58
48	286	50	48	1K6	30
115	1K7	21	110	8K1	13
230	6K8	10	220	35K6	6
400	18K8	6			

## RP3010

### 3 CHANGE-OVER CONTACTS, 11 FASTON, TPDT

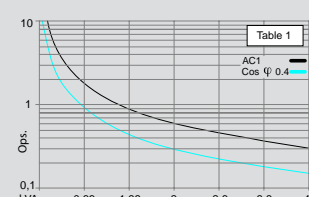


#### Dimensions mm [in]

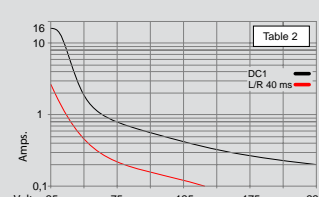


General application 16 A 400 V AC-1 0,5 A 110 V DC-1  
16 A 30 V DC-1 0,2 A 220 V DC-1

#### Electric life, ops x 10<sup>6</sup>



#### Maxim load in VDC



#### Standard types

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240), 400  
DC: 24, 48, 110, 220  
RP3010NN, RP3010LN, RP3010NR  
RP3010LD, RP3010LE, RP3010LU  
Sockets: SPT30D, SPW30F, SPP30X, SPP30F

#### Contacts

Max. switching current ..... 16 A  
Max. peak inrush current, 20ms ..... 40 A  
Max. Switching voltage ..... 400 V  
Max. VAC load (table 1) ..... 4 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi (std)

#### Insulation

Contact  
Open contact ..... 1000 V  
Contact/contact ..... 4 kV  
Contact/coil ..... 4 kV  
Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 4 kV / 3



#### Specifications

Pick-up time/bounce time ..... 20 ms / ≤ 3 ms  
Release time/bounce time ..... 10 ms / ≤ 1 ms  
Ambient temperature, operation/storage ..... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 95 g.

#### Coils

Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... > 0,1 x Un  
Nominal power ..... 2,4 VA (VAC) / 1,4 W (VDC)

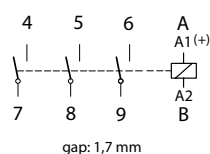
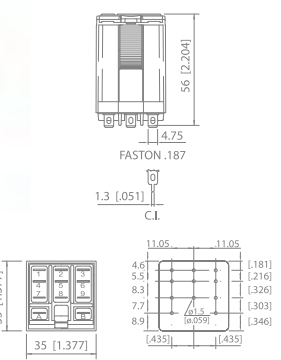
VAC	Ω	mA	VDC	Ω	mA
24	65	100	24	414	58
48	286	50	48	1K6	30
115	1K7	21	110	8K1	13
230	6K8	10	220	35K6	6,5
400	18K8	6			

## RP3014

### 3 OPEN CONTACTS, 8 FASTON, TPST

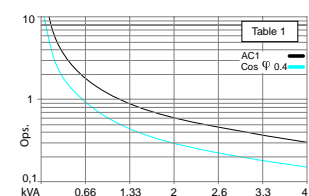


#### Dimensions mm [in]

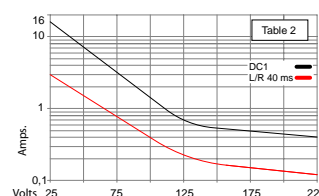


Application for VDC 16 A 400 V AC-1 1,2 A 110 V DC-1  
16 A 30 V DC-1 0,4 A 220 V DC-1

#### Electric life, ops x 10<sup>6</sup>



#### Maxim load in VDC



#### Standard types

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
DC: 24, 48, 110, 220  
RP3014NN, RP3014LN, RP3014NR  
RP3014LD, RP3014LE, RP3014LU  
Sockets: SPT30D, SPW30F, SPP30X, SPP30F

#### Contacts

Max. switching current ..... 16 A  
Max. peak inrush current, 20ms ..... 40 A  
Max. Switching voltage ..... 400 V  
Max. VAC load (table 1) ..... 4 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi (std)

#### Insulation

Contact  
Open contact ..... 2000 V  
Contact/contact ..... 4 kV  
Contact/coil ..... 4 kV  
Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 4 kV / 3



#### Specifications

Pick-up time/bounce time ..... 20 ms / ≤ 3 ms  
Release time/bounce time ..... 10 ms / ≤ 1 ms  
Ambient temperature, operation/storage ..... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 95 g.

#### Coils

Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... > 0,1 x Un  
Nominal power ..... 2,4 VA (VAC) / 1,6 W (VDC)

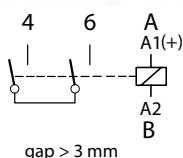
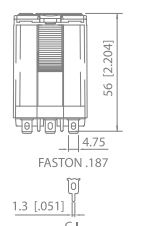
VAC	Ω	mA	VDC	Ω	mA
24	65	100	12	90	133
48	286	50	24	360	66
115	1K7	21	48	1K4	34
230	6K8	10	110	7K6	15
400	18K8	6	220	30K3	7,5

RP1015

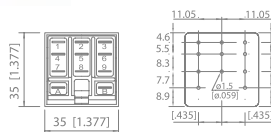
**1 DOUBLE MAKE OPEN CONTACT, 4 FASTON, SPST**



**Dimensions mm [in]**

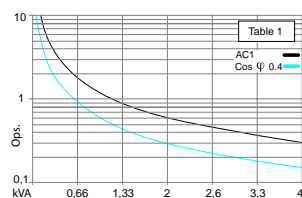


gap > 3 mm

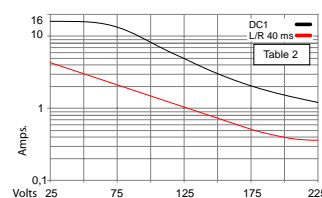


**Power relay VDC** 16 A 400 V AC-1 6 A 110 V DC-1  
**One contact NO** 16 A 30 V DC-1 1,2 A 220 V DC-1

**Electric life, ops x 10<sup>6</sup>**



**Maxim load in VDC**



**Standard types**

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
 RP1015NN, RP1015LN, RP1015NR  
 DC: 24, 48, 110, 220  
 RP1015NN, RP1015LN, RP1015LD, RP1015LE  
 AC/DC: RP1015LU  
**Sockets:** SPT30D, SPW30F, SPP30X, SPP30F

**Contacts**

Max. switching current ..... 16 A  
 Max. peak inrush current, 20ms ..... 40 A  
 Max. Switching voltage ..... 400 V  
 Max. VAC load (table 1) ..... 4 kVA  
 Max. VDC load ..... see (table 2)  
 Contact material ..... AgNi (std)

**Insulation**

Contact ..... Contact/contact ..... 4 kV  
 Contact/coil ..... 4 kV  
 Insulation resistance at 500 V ..... >3G Ω  
 Insulation, EN 61810-1 ..... 4 kV / 3



**Specifications**

Pick-up time/bounce time ..... 20 ms / ≤ 3 ms  
 Release time/bounce time ..... 10 ms / ≤ 1 ms  
 Ambient temperature, operation/storage ..... -40°C (no ice) 60°C/80°C  
 Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
 VDC voltage endurance at rated load ..... >100.000 ops.  
 Switching frequency at rated load ..... 1200/h.  
 Protection class ..... IP40 / RT1  
 Weight ..... 90 g.

**Coils**

Pick-up voltage ..... < 0,8 x Un  
 Release voltage ..... >0,1 x Un  
 Nominal power ..... 2,4 VA (VAC) / 1,3 W (VDC)

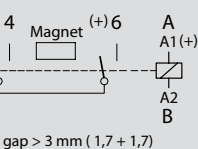
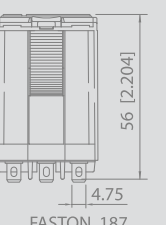
VAC	Ω	mA	VDC	Ω	mA
24	65	100	24	443	54
48	286	50	48	1K7	27
115	1K7	21	110	9K2	12
230	6K8	10	220	34K5	6,5
400	18K8	6			

RP1016

**1 OPEN CONTACT, MAGNETIC BLOW-OUT, 4 FASTON, SPST**



**Dimensions mm [in]**

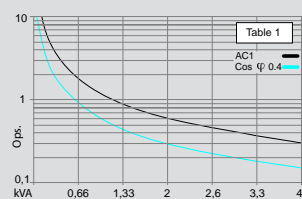


gap > 3 mm (1,7 + 1,7)

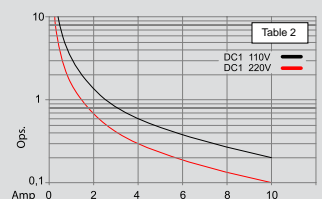


**Power relay VDC** 16 A 400 V AC-1 10 A 220 V DC-1  
**One contact NO** 3,6 A 30 V DC Ind 2 A 220 V DC-1

**Electric life, ops x 10<sup>6</sup>**



**Maxim load in VDC**



**Standard types**

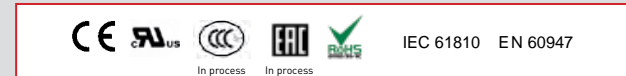
AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
 RP1016NN, RP1016LN, RP1016NR  
 DC: 12, 24, 48, 110, 120/125, 220  
 RP1016NN, RP1016LN, RP1016LD, RP1016LE  
 AC/DC: RP1016LU  
**Sockets:** SPT30D, SPW30F, SPP30X, SPP30F

**Contacts**

Max. switching current ..... 16 A  
 Max. peak inrush current, 20ms ..... 40 A  
 Max. Switching voltage ..... 400 V  
 Max. VAC load (table 1) ..... 4 kVA  
 Max. VDC load ..... see (table 2)  
 Contact material ..... AgNi (std)

**Insulation**

Contact ..... Open contact ..... 4000 V  
 Contact/contact ..... 4 kV  
 Contact/coil ..... 4 kV  
 Insulation resistance at 500 V ..... >3G Ω  
 Insulation, EN 61810-1 ..... 4 kV / 3



**Specifications**

Pick-up time/bounce time ..... 20 ms / ≤ 3 ms  
 Release time/bounce time ..... 10 ms / ≤ 1 ms  
 Ambient temperature, operation/storage ..... -40°C (no ice) 60°C/80°C  
 Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
 VDC voltage endurance at rated load ..... >100.000 ops.  
 Switching frequency at rated load ..... 1200/h.  
 Protection class ..... IP40 / RT1  
 Weight ..... 90 g.

**Coils**

Pick-up voltage ..... < 0,8 x Un  
 Release voltage ..... >0,1 x Un  
 Nominal power ..... 2,4 VA (VAC) / 1,3 W (VDC)

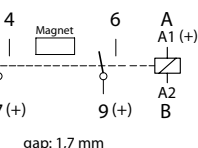
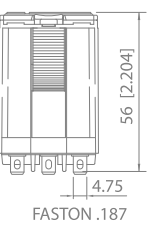
VAC	Ω	mA	VDC	Ω	mA
24	65	100	12	110	108
48	286	50	24	443	54
115	1K7	21	48	1K7	27
230	6K8	10	110	9K	12
400	18K8	6	220	34K5	6,5

RP2016

**2 OPEN CONTACTS, MAGNETIC BLOW-OUT, 6 FASTON, DPST**



**Dimensions mm [in]**

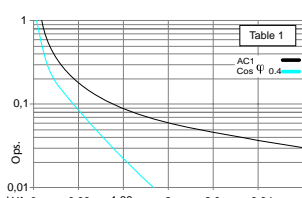


gap: 1,7 mm

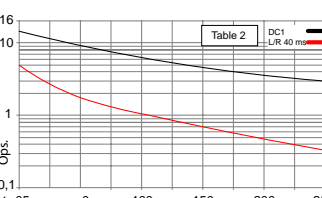


**Power Relay VDC** 16 A 250 V AC-1 7 A 110 V DC-1  
**3 A 220 V DC-1**

**Electric life, ops x 10<sup>6</sup>**



**Maxim load in VDC**



**Standard types**

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
 RP2016NN, RP2016LN, RP2016NR,  
 DC: 12, 24, 48, 110, 120/125, 220  
 RP2016NN, RP2016LN, RP2016LD, RP2016LE  
 AC/DC: RP2016LU  
**Sockets:** SPT30D, SPW30F, SPP30X, SPP30F

**Contacts**

Max. switching current ..... 16 A  
 Max. peak inrush current, 20ms ..... 40 A  
 Max. Switching voltage ..... 250 V  
 Max. VAC load (table 1) ..... 4 kVA  
 Max. VDC load ..... see (table 2)  
 Contact material ..... AgNi (std)

**Insulation**

Contact ..... Open contact ..... 4000 V  
 Contact/contact ..... 4 kV  
 Contact/coil ..... 4 kV  
 Insulation resistance at 500 V ..... >3G Ω  
 Insulation, EN 61810-1 ..... 4 kV / 3



**Specifications**

Pick-up time/bounce time ..... 20 ms / ≤ 3 ms  
 Release time/bounce time ..... 10 ms / ≤ 1 ms  
 Ambient temperature, operation/storage ..... -40°C (no ice) 60°C/80°C  
 Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
 VDC voltage endurance at rated load ..... >100.000 ops.  
 Switching frequency at rated load ..... 1200/h.  
 Protection class ..... IP40 / RT1  
 Weight ..... 90 g.

**Coils**

Pick-up voltage ..... < 0,8 x Un  
 Release voltage ..... >0,1 x Un  
 Nominal power ..... 2,4 VA (VAC) / 1,6 W (VDC)

VAC	Ω	mA	VDC	Ω	mA
24	65	100	12	90	133
48	286	50	24	373	66
115	1K7	21	48	1K4	33
230	6K8	10,4	110	7K6	15

# RP/SP power relays and sockets

RM2019

SPT30

SPW30

SPP30X

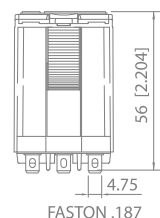
SPP30F

RP2019

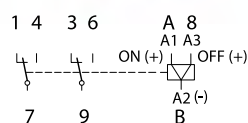
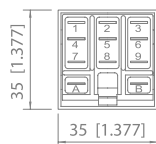
**2 CHANGE-OVER CONTACTS, REMANENCE, 9 FASTON, DPDT**



Dimensions mm [in]

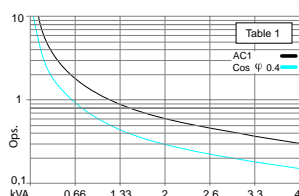


FASTON .187

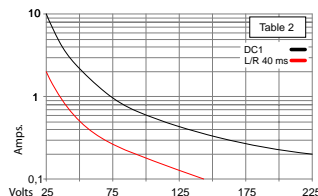


Magnetic remanence 10 A 400 V AC1 10 A 30 V DC1  
0,2 A 250 V Ind 0,5 A 110 V DC1

Electric life, ops x 10<sup>6</sup>



Maxim load in VDC



Standard types

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
RP2019NN  
DC: 12, 24, 48, 110, 125  
RP2019NN  
Sockets: SPT30D, SPW30F, SPP30X, SPP30F

Contacts

Max. switching current ..... 10 A  
Max. peak inrush current, 20ms ..... 30 A  
Max. switching voltage ..... 400 V  
Max. VAC load (table 1) ..... 4 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi (std)

Insulation

Contact  
Open contact ..... 2000 V  
Contact/contact ..... 4 kV  
Contact/coil ..... 4 kV

Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 4 kV / 3



Specifications

Pick-up time/bounce time ..... 50 ms.  
Ambient temperature, operation/storage ..... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 90 g.

Coils

Pick-up voltage ..... 1,5 VA/W  
Release voltage ..... 0,5 VA/W

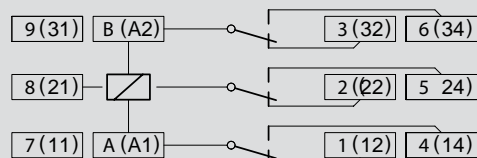
VAC	ON mA	OFF mA	VDC	ON mA	OFF mA
24	75	12	12	125	41
48	38	6	24	63	21
115	16	2,5	48	31	10
230	8	1,3	110	14	4,5

SPT30

**3 POLES, RAIL DIN**

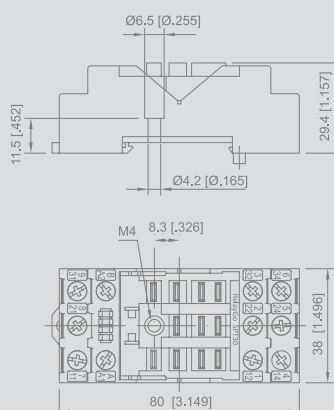


Connection diagram



Socket for 11 faston relays, with clip and marking label  
16 A / 400 V

Dimensions mm [in]



Specifications

Rated load ..... 10 A / 400 V

Insulation

Test voltage, (Vrms/ 1 min.)  
Contacts/coils ..... 4 kV  
All terminals/DIN rail ..... 4 kV  
Terminal/terminal ..... 4 kV

Cross-section of connecting wire

Single-wire ..... 4 mm<sup>2</sup> or 2 x 2,25 mm<sup>2</sup>  
Multi-wire ..... 22 - 14 AWG  
Cable with tip ..... 4 mm<sup>2</sup>  
Max. screw torque ..... 1,2 Nm  
Screw dimensions ..... M3, Pozi  
Retaining clip plastic integrated



Socket for RP relays

Socket for RP, 11 pin plug-in relays RP2010, RP3010, RP3014, RP1015, RP1016, RP2016, RP2019

Mounting in rail DIN and panel  
Coding label  
Numeration EN/DIN

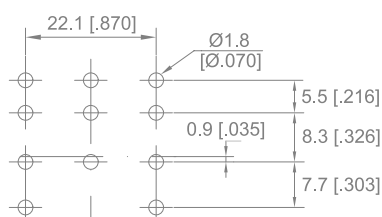
According to the norm EN 60947-1 and IEC 61810-1

SPW30F

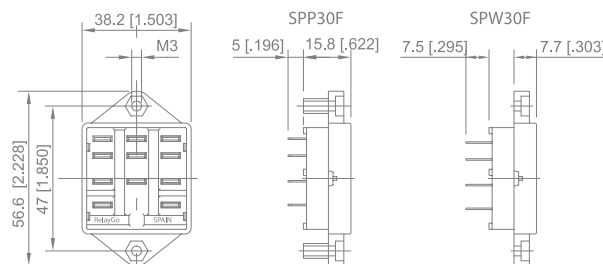
**3 POLES, PANEL MOUNTING, SOLDERING WITH CABLES**



PCB mounting



Dimensions mm [in]



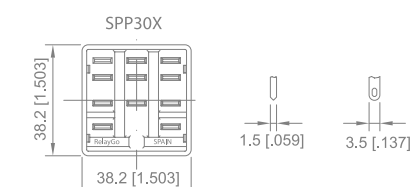
SPP30X

**3 POLES, PRINTED CIRCUIT**



SPP30F

**3 POLES, PRINTED CIRCUIT, MOUNTABLE WITH SCREW M3**



Socket for RP relays

Socket for RP, 11 pin plug-in relays RP2010, RP3010, RP3014, RP1015, RP1016, RP2016, RP2019

Specifications

Rated load ..... 16 A / 400 V  
Insulation (terminal/terminal) ..... 4 kV





**Kühn Controls AG**

**Notes:**

You want more information about this product, please call us: tel: +49 (0)7082-940000 or send us a fax: +49 (0)7082-940001,  
or email: [sales@kuehn-controls.de](mailto:sales@kuehn-controls.de) or visit our Website: [www.kuehn-controls.de](http://www.kuehn-controls.de)