Configuration Matrix
Device circuit breakers CB TM1 F1

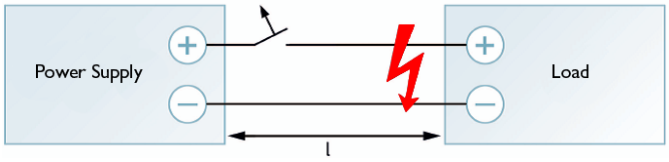
Planning aid to the secondary side of your power supply

cable cross-section (mm^2)	0,75	1,0	1,5	2,5	4,0
24V/5 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A F1 P	103 m	137 m	206 m	344 m	
Distance with CB TM1 2A F1 P	56 m	75 m	113 m	189 m	
24V/10 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A F1 P	103 m	137 m	206 m	344 m	
Distance with CB TM1 2A F1 P	56 m	75 m	113 m	189 m	
Distance with CB TM1 3A F1 P	39 m	52 m	78 m	130 m	
Distance with CB TM1 4A F1 P	29 m	39 m	59 m	99 m	
Distance with CB TM1 5A F1 P	24 m	32 m	48 m	80 m	
24V/20 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A F1 P	103 m	137 m	206 m	344 m	550 m
Distance with CB TM1 2A F1 P	56 m	75 m	113 m	189 m	303 m
Distance with CB TM1 3A F1 P	39 m	52 m	78 m	130 m	208 m
Distance with CB TM1 4A F1 P	29 m	39 m	59 m	99 m	158 m
Distance with CB TM1 5A F1 P	24 m	32 m	48 m	80 m	128 m
Distance with CB TM1 6A F1 P	20 m	26 m	40 m	66 m	106 m
Distance with CB TM1 8A F1 P	15 m	20 m	30 m	51 m	82 m
Distance with CB TM1 10A F1 P	12 m	16 m	24 m	41m	65 m
24V/40 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A F1 P	103 m	137 m	206 m	344 m	550 m
Distance with CB TM1 2A F1 P	56 m	75 m	113 m	189 m	303 m
Distance with CB TM1 3A F1 P	39 m	52 m	78 m	130 m	208 m
Distance with CB TM1 4A F1 P	29 m	39 m	59 m	99 m	158 m
Distance with CB TM1 5A F1 P	24 m	32 m	48 m	80 m	128 m

PHOENIX CONTACT
INSPIRING INNOVATIONS

cable cross-section (mm^2)	0,75	1,0	1,5	2,5	4,0
24V/40 A QUINT POWER with SFB-Technology					
Distance with CB TM1 6A F1 P	20 m	26 m	40 m	66 m	106 m
Distance with CB TM1 8A F1 P	15 m	20 m	30 m	51 m	82 m
Distance with CB TM1 10A F1 P	12 m	16 m	24 m	41 m	65 m
Distance with CB TM1 12A F1 P	10 m	13 m	20 m	34 m	54 m
Distance with CB TM1 16A F1 P	7 m	10 m	15 m	25 m	41 m
48V/5 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A F1 P	229 m	306 m	459 m	765 m	
Distance with CB TM1 2A F1 P	120 m	160 m	240 m	400 m	
48V/10 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A F1 P	229 m	306 m	459 m	765 m	1224 m
Distance with CB TM1 2A F1 P	120 m	160 m	240 m	400 m	640 m
Distance with CB TM1 3A F1 P	81 m	108 m	162 m	271 m	433 m
Distance with CB TM1 4A F1 P	61 m	81 m	122 m	204 m	326 m
Distance with CB TM1 5A F1 P	49 m	65 m	98 m	164 m	262 m

The indicated values specify the distance (l) from the power supply to the load. The following margin parameters form the basis of the calculation:



- Device circuit breakers CB TM1 …A F1 P
- Power supply QUINT-PS/…AC/24DC/…
- Electromagnetic triggering of the device circuit breaker latest to: 4 x rated current
- Ambient temperature:: + 20 °C
- The internal resistances of the device circuit breakers have been considered
- In addition to the short-circuit current, the respective power supply unit supplies half the nominal current for parallel connected loads

In order to be able to trigger standard circuit breakers magnetically and quickly the SFB technology of the QUINT POWER supplies up to six times the nominal current for 12 ms.

(Status: August 2015)

Configuration Matrix
Device circuit breakers CB TM1 SFB

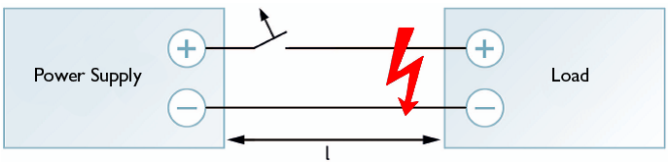
Planning aid to the secondary side of your power supply

cable cross-section (mm^2)	0,75	1,0	1,5	2,5	4,0
24V/5 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A SFB P	27 m	36 m	54 m	91 m	
Distance with CB TM1 2A SFB P	10 m	13 m	20 m	34 m	
24V/10 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A SFB P	27 m	36 m	54 m	91 m	
Distance with CB TM1 2A SFB P	18 m	25 m	37 m	63 m	
Distance with CB TM1 3A SFB P	11 m	15 m	22 m	38 m	
Distance with CB TM1 4A SFB P	6 m	8 m	13 m	21 m	
Distance with CB TM1 5A SFB P	4 m	5 m	8 m	14 m	
24V/20 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A SFB P	27 m	36 m	54 m	91 m	146 m
Distance with CB TM1 2A SFB P	18 m	25 m	37 m	63 m	101 m
Distance with CB TM1 3A SFB P	13 m	18 m	27 m	46 m	74 m
Distance with CB TM1 4A SFB P	10 m	14 m	21 m	35 m	57 m
Distance with CB TM1 5A SFB P	8 m	11 m	17 m	29 m	47 m
Distance with CB TM1 6A SFB P	6 m	8 m	12 m	20 m	32 m
Distance with CB TM1 8A SFB P	3 m	5 m	7 m	12 m	20 m
Distance with CB TM1 10A SFB P		3 m	4 m	8 m	13 m
24V/40 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A SFB P	27 m	36 m	54 m	91 m	146 m
Distance with CB TM1 2A SFB P	18 m	25 m	37 m	63 m	101 m
Distance with CB TM1 3A SFB P	13 m	18 m	27 m	46 m	74 m
Distance with CB TM1 4A SFB P	10 m	14 m	21 m	35 m	57 m
Distance with CB TM1 5A SFB P	8 m	11 m	17 m	29 m	47 m

PHOENIX CONTACT
INSPIRING INNOVATIONS

cable cross-section (mm^2)	0,75	1,0	1,5	2,5	4,0
24V/40 A QUINT POWER with SFB-Technology					
Distance with CB TM1 6A SFB P	7 m	9 m	14 m	24 m	39 m
Distance with CB TM1 8A SFB P	5 m	7 m	11 m	19 m	31 m
Distance with CB TM1 10A SFB P	4 m	5 m	8 m	14 m	22 m
Distance with CB TM1 12A SFB P		3 m	5 m	9 m	15 m
Distance with CB TM1 16A SFB P			3 m	5 m	9 m
48V/5 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A SFB P	77 m	103 m	155 m	259 m	
Distance with CB TM1 2A SFB P	27 m	36 m	54 m	91 m	
48V/10 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A SFB P	77 m	103 m	155 m	259 m	415 m
Distance with CB TM1 2A SFB P	44 m	58 m	88 m	147 m	235 m
Distance with CB TM1 3A SFB P	25 m	34 m	51 m	86 m	138 m
Distance with CB TM1 4A SFB P	14 m	19 m	29 m	49 m	79 m
Distance with CB TM1 5A SFB P	9 m	13 m	19 m	32 m	52 m
48V/20 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A SFB P	77 m	103 m	155 m	259 m	415 m
Distance with CB TM1 2A SFB P	44 m	58 m	88 m	147 m	235 m
Distance with CB TM1 3A SFB P	30 m	41 m	61 m	102 m	164 m
Distance with CB TM1 4A SFB P	23 m	31 m	46 m	77 m	124 m
Distance with CB TM1 5A SFB P	15 m	20 m	31 m	51 m	83 m
Distance with CB TM1 6A SFB P	10 m	14 m	21 m	36 m	58 m
Distance with CB TM1 8A SFB P	6 m	8 m	13 m	22 m	34 m
Distance with CB TM1 10A SFB P	4 m	5 m	8 m	14 m	22 m
Distance with CB TM1 12A SFB P		3 m	5 m	9 m	15 m
Distance with CB TM1 16A SFB P			3 m	5 m	8 m

The indicated values specify the distance (l) from the power supply to the load. The following margin parameters form the basis of the calculation:



- Device circuit breakers CB TM1 …A F1 P
- Power supply QUINT-PS/…AC/24DC/…
- Electromagnetic triggering of the device circuit breaker latest to: 10 x rated current
- Ambient temperature:: + 20 °C
- The internal resistances of the device circuit breakers have been considered
- In addition to the short-circuit current, the respective power supply unit supplies half the nominal current for parallel connected loads

In order to be able to trigger standard circuit breakers magnetically and quickly the SFB technology of the QUINT POWER supplies up to six times the nominal current for 12 ms.

(Status: August 2015)

PHOENIX CONTACT
INSPIRING INNOVATIONS

Configuration Matrix
Device circuit breakers CB TM1 M1

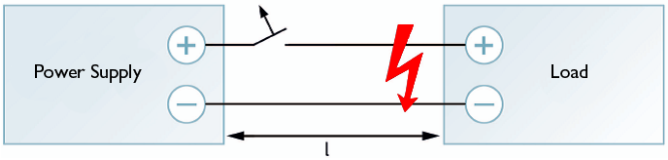
Planning aid to the secondary side of your power supply

cable cross-section (mm^2)	0,75	1,0	1,5	2,5	4,0
24V/5 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A M1 P	5 m	7 m	11 m	19 m	
Distance with CB TM1 2A M1 P				4 m	
24V/10 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A M1 P	10 m	14 m	21 m	35 m	
Distance with CB TM1 2A M1 P	8 m	10 m	16 m	27 m	
Distance with CB TM1 3A M1 P	3 m	5 m	7 m	12 m	
Distance with CB TM1 4A M1 P			3 m	6 m	
Distance with CB TM1 5A M1 P				4 m	
24V/20 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A M1 P	10 m	14 m	21 m	35 m	56 m
Distance with CB TM1 2A M1 P	10 m	14 m	21 m	35 m	56 m
Distance with CB TM1 3A M1 P	8 m	11 m	16 m	27 m	44 m
Distance with CB TM1 4A M1 P	5 m	7 m	10 m	17 m	28 m
Distance with CB TM1 5A M1 P	3 m	4 m	6 m	11 m	18 m
Distance with CB TM1 6A M1 P		3 m	4 m	7 m	12 m
Distance with CB TM1 8A M1 P			3 m	5 m	8 m
Distance with CB TM1 10A M1 P				3 m	5 m
24V/40 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A M1 P	10 m	14 m	21 m	35 m	56 m
Distance with CB TM1 2A M1 P	10 m	14 m	21 m	35 m	56 m
Distance with CB TM1 3A M1 P	8 m	11 m	16 m	27 m	44 m
Distance with CB TM1 4A M1 P	6 m	8 m	13 m	21 m	34 m
Distance with CB TM1 5A M1 P	5 m	7 m	10 m	18 m	29 m

PHOENIX CONTACT
INSPIRING INNOVATIONS

cable cross-section (mm^2)	0,75	1,0	1,5	2,5	4,0
24V/40 A QUINT POWER with SFB-Technology					
Distance with CB TM1 6A M1 P	4 m	5 m	8 m	14 m	23 m
Distance with CB TM1 8A M1 P		3 m	5 m	9 m	15 m
Distance with CB TM1 10A M1 P			3 m	6 m	9 m
Distance with CB TM1 12A M1 P				4 m	6 m
Distance with CB TM1 16A M1 P					3 m
48V/5 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A M1 P	34 m	46 m	69 m	115 m	
Distance with CB TM1 2A M1 P	9 m	12 m	18 m	30 m	
48V/10 A QUINT POWER with SFB-Technology					
Distance with CB TM1 1A M1 P	44 m	58 m	88 m	147 m	235 m
Distance with CB TM1 2A M1 P	22 m	30 m	45 m	75 m	120 m
Distance with CB TM1 3A M1 P	10 m	14 m	21 m	35 m	56 m
Distance with CB TM1 4A M1 P	5 m	7 m	11 m	19 m	31 m
Distance with CB TM1 5A M1 P	3 m	5 m	7 m	12 m	20 m

The indicated values specify the distance (l) from the power supply to the load. The following margin parameters form the basis of the calculation:



- Device circuit breakers CB TM1 …A F1 P
- Power supply QUINT-PS/…AC/24DC/…
- Electromagnetic triggering of the device circuit breaker latest to: 15 x rated current
- Ambient temperature:: + 20 °C
- The internal resistances of the device circuit breakers have been considered
- In addition to the short-circuit current, the respective power supply unit supplies half the nominal current for parallel connected loads

In order to be able to trigger standard circuit breakers magnetically and quickly the SFB technology of the QUINT POWER supplies up to six times the nominal current for 12 ms.

(Status: August 2015)

Configuration Matrix
Device circuit breakers CB E1 24DC

Planning aid to the secondary side of your power supply

cable cross-section (mm²)	0,75	1,0	1,5	2,5	4,0
24V/5 A TRIO POWER					
Distance with CB E1 24DC/1A P	174 m	232 m	348 m	580 m	928 m
Distance with CB E1 24DC/2A P	87 m	116 m	174 m	291 m	466 m
24V/10 A TRIO POWER					
Distance with CB E1 24DC/1A P	174 m	232 m	348 m	580 m	928 m
Distance with CB E1 24DC/2A P	87 m	116 m	174 m	291 m	466 m
Distance with CB E1 24DC/3A P	58 m	77 m	116 m	193 m	310 m
Distance with CB E1 24DC/4A P	43 m	58 m	87 m	145 m	233 m
24V/20 A TRIO POWER					
Distance with CB E1 24DC/1A P	174 m	232 m	348 m	580 m	928 m
Distance with CB E1 24DC/2A P	87 m	116 m	174 m	291 m	466 m
Distance with CB E1 24DC/3A P	58 m	77 m	116 m	193 m	310 m
Distance with CB E1 24DC/4A P	43 m	58 m	87 m	145 m	233 m
Distance with CB E1 24DC/6A P	29 m	38 m	58 m	96 m	154 m
Distance with CB E1 24DC/8A P	21 m	29 m	43 m	72 m	116 m
Distance with CB E1 24DC/10A P	17 m	23 m	34 m	58 m	93 m
24V/40 A TRIO POWER					
Distance with CB E1 24DC/1A P	174 m	232 m	348 m	580 m	928 m
Distance with CB E1 24DC/2A P	87 m	116 m	174 m	291 m	466 m
Distance with CB E1 24DC/3A P	58 m	77 m	116 m	193 m	310 m
Distance with CB E1 24DC/4A P	43 m	58 m	87 m	145 m	233 m
Distance with CB E1 24DC/6A P	29 m	38 m	58 m	96 m	154 m
Distance with CB E1 24DC/8A P	21 m	29 m	43 m	72 m	116 m
Distance with CB E1 24DC/10A P	17 m	23 m	34 m	58 m	93 m

PHOENIX CONTACT
INSPIRING INNOVATIONS

The indicated values specify the distance (l) from the power supply to the load. The following margin parameters form the basis of the calculation:

- Power supply TRIO, output voltage of 29,5 V adjusted
- Voltage at the load 19 V at declared distance
- Device circuit breaker CB E1 24DC/xA ... P
- Latest tripping of the device circuit breaker at:

- 1,25 times of the rated current after 800ms

- Ambient temperature: + 20 °C
- Voltage drop over circuit breaker was considered
- In addition to the short-circuit current, the respective power supply unit supplies half the nominal current for parallel connected loads

(Status: August 2015)