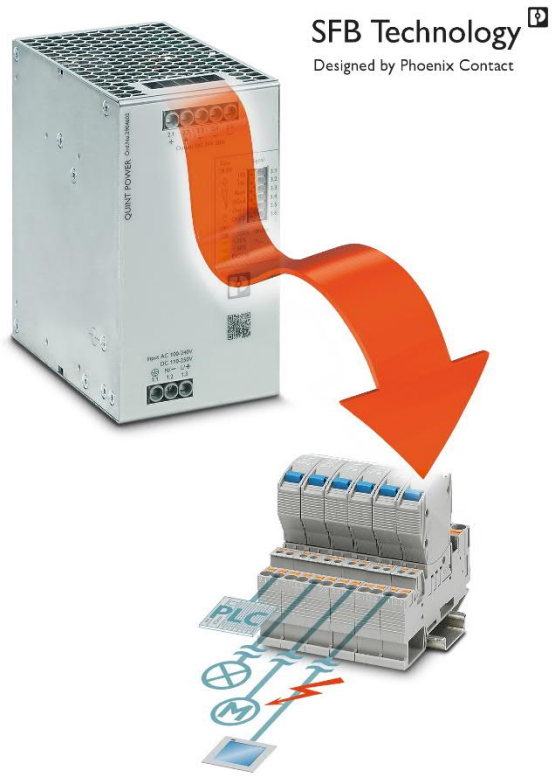
QUINT POWER –
Highst system availability due to SFB Technology

Standard circuit-breakers triggered reliably and quickly

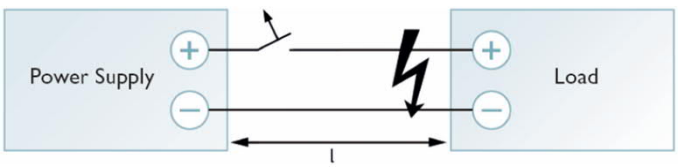


In order to be able to trigger standard circuit- breakers magnetically and quickly the SFB Technology supplies up to six times the nominal current for 15 ms.

SFB configuration

Observe the following framework conditions for determining the maximum distance between the power supply and load:

- ☑ The performance class of the power supply.
- ☑ The cross section of the connecting cable.
- ☑ The tripping characteristic of the fuse component.



Schematic diagram of the maximum cable length

Maximum distance between the power supply and load

The distances given in the table are worst-case values and therefore cover the entire tolerance range for the magnetic tripping of circuit breakers. The possible distances are often greater in practice.

QUINT POWER 24V/5A

Maximum distance l [m] with circuit breaker		Conductor cross section			
		A [mm²]	0.75	1.0	1.5	2.5
		AWG	18	(17)	16	14
Siemens 5SY	A1		78	105	157	263
	A1.6		58	77	116	194
	A2		49	65	98	164
	A3		35	47	70	118
	A4		20	27	40	68
	B2		24	33	49	82
	C1		7	9	14	24
	C1.6		3	5	7	13
	C2		3	4	6	10
ABB S200	Z1		64	85	128	214
	Z1.6		46	62	93	156
	Z2		42	57	85	143
	Z3		30	41	61	102
	Z4		17	23	34	57
	C2		1	1	2	4

QUINT POWER 24V/10A

Maximum distance l [m] with circuit breaker		Conductor cross section			
		A [mm²]	0.75	1.0	1.5	2.5
		AWG	18	(17)	16	14
Siemens 5SY	A1		78	105	157	263
	A 1.6		58	77	116	194
	A2		49	65	98	164
	A3		35	47	71	118
	A4		27	36	54	90
	A6		18	24	37	62
	B2		28	37	56	93
	B4		14	19	28	48
	B6		6	8	13	21
	C1		10	14	21	35
	C1.6		12	17	25	42
	C2		11	15	22	37
	C3		4	6	9	15
ABB S200	Z1		64	85	128	214
	Z1.6		46	62	93	156
	Z2		42	57	85	143
	Z3		33	44	66	110
	Z4		24	33	49	82
	Z6		15	20	30	51
	B6		5	7	11	18
	C1		3	4	6	11
	C1.6		7	10	15	25
	C2		4	6	9	15
	C3		3	4	7	11

QUINT POWER 24V/20A

Maximum distance l [m] with circuit breaker		Conductor cross section					
	A [mm²]	0.75	1.0	1.5	2.5	4.0	6.0
	AWG	18	(17)	16	14	12	10
Siemens 5SY	A1	78	105	157	263	420	631
	A1.6	58	77	116	194	311	467
	A2	49	65	98	164	262	394
	A3	35	47	71	118	190	285
	A4	27	36	54	90	144	217
	A6	18	25	37	62	100	150
	A8	14	19	28	48	76	115
	A10	11	15	23	38	61	92
	A13	8	11	16	27	44	66
	A16	5	7	11	18	30	45
	B2	28	37	56	93	149	224
	B4	16	21	32	53	85	128
	B6	10	14	21	36	57	86
	B10	5	6	10	17	27	41
	B13	3	4	6	10	16	24
	C1	10	14	21	35	56	84
	C1.6	12	17	25	42	68	102
	C2	11	15	23	39	62	94
	C3	9	12	18	30	48	72
	C4	6	8	12	21	34	51
	C6	2	3	5	9	15	23

QUINT POWER 24V/20A

Maximum distance l [m] with circuit breaker		Conductor cross section					
	A [mm²]	0.75	1.0	1.5	2.5	4.0	6.0
	AWG	18	(17)	16	14	12	10
ABB S200	Z1	64	85	128	214	343	514
	Z1.6	46	62	93	156	250	375
	Z2	42	57	85	143	229	343
	Z3	33	44	66	110	176	264
	Z4	24	33	49	82	132	198
	Z6	16	21	32	54	87	131
	Z8	12	17	25	42	68	102
	Z10	10	14	21	36	57	86
	Z16	4	6	9	16	26	39
	B6	10	13	20	33	53	80
	B8	6	9	13	22	36	55
	B10	4	5	8	14	23	35
	B13	2	3	5	8	13	20
	C1	3	4	6	11	17	26
	C1.6	7	10	15	25	41	62
	C2	7	9	14	23	38	57
	C3	8	10	16	26	42	64
	C4	4	6	9	16	26	39
	C6	2	2	4	7	11	17

QUINT POWER 24V/40A

Maximum distance l [m] with circuit breaker		Conductor cross section						
	A [mm²]	0.75	1.0	1.5	2.5	4.0	6.0	10.0
	AWG	18	(17)	16	14	12	10	8
Siemens 5SY	A1	78	105	157	263	420	631	1052
	A1.6	58	77	116	194	311	467	779
	A2	49	65	98	164	262	394	657
	A3	35	47	71	118	190	285	475
	A4	27	36	54	90	144	217	362
	A6	18	25	37	62	100	150	250
	A8	14	19	28	48	76	115	192
	A10	11	15	23	38	61	92	154
	A13	8	11	17	29	47	71	119
	A16	7	9	14	24	39	58	97
	A20	5	7	11	19	31	46	78
	A25	4	5	8	13	21	32	53
	A32	2	3	5	8	13	20	33
	A40	1	2	3	5	8	13	22
	B2	28	37	56	93	149	224	374
	B4	16	21	32	53	85	128	214
	B6	10	14	21	36	57	86	144
	B10	6	9	13	23	36	55	92
	B13	5	6	10	17	27	41	68
	B16	3	4	7	11	18	28	47
	B20	2	3	4	7	12	18	30
	B25	1	2	3	5	8	12	20
	C1	10	14	21	35	56	84	141
	C1.6	12	17	25	42	68	102	171
	C2	11	15	23	39	62	94	157
	C3	9	12	18	30	48	72	121
	C4	7	9	14	24	38	58	97
	C6	5	6	10	16	27	40	67
	C8	3	4	6	11	17	26	44
	C10	2	2	4	7	11	17	29
	C13	1	1	2	4	6	10	17

QUINT POWER 24V/40A

Maximum distance l [m] with circuit breaker		Conductor cross section						
	A [mm²]	0.75	1.0	1.5	2.5	4.0	6.0	10.0
	AWG	18	(17)	16	14	12	10	8
ABB S200	Z1	64	85	128	214	343	514	857
	Z1.6	46	62	93	156	250	375	625
	Z2	42	57	85	143	229	343	573
	Z3	33	44	66	110	176	264	441
	Z4	24	33	49	82	132	198	331
	Z6	16	21	32	54	87	131	219
	Z8	12	17	25	42	68	102	171
	Z10	10	14	21	35	57	86	144
	Z16	6	9	13	22	36	54	90
	B6	10	13	20	33	53	80	133
	B8	8	10	16	26	43	64	107
	B10	6	8	12	21	34	51	85
	B13	4	5	8	14	23	35	59
	B16	3	4	6	10	16	24	41
	B20	1	2	3	6	10	15	26
	B25	1	1	2	4	6	10	17
	C1	3	4	6	11	17	26	44
	C1.6	7	10	15	25	41	62	44
	C2	7	9	14	23	28	57	95
	C3	8	10	16	26	42	64	107
	C4	6	8	12	20	32	48	81
	C6	4	5	8	14	23	34	57
	C8	2	3	5	9	15	12	38
	C10	1	2	3	6	9	14	24
	C13	1	1	2	3	5	8	13

Thermomagnetic circuit breaker, type: Siemens 5SY, ABB S200

The cable lengths determined are based on the following parameters:

Tripping:	magnetic
DC correction factor (0 Hz):	Siemens = 1.4; ABB = 1.5
Characteristic:	A, Z, B, C Characteristic A (3 times the rated current) x correction factor Characteristic Z (3 times the rated current) x correction factor Characteristic B (5 times the rated current) x correction factor Characteristic C (10 times the rated current) x correction factor Ambient temperature: +20 °C
Internal resistance R_i of the device circuit breaker:	taken into consideration
Comments:	In addition to the short-circuit current, the power supply unit also supplies half the nominal current for load paths connected in parallel.