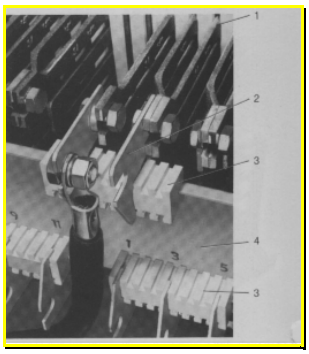
Design

3PR3 resistors are equipped with cast iron resistor elements 3PY6 which are installed in a steel sheet housing. Ceramic strips hold and insulate the resistor elements inside the housing. A heat shield separates the resistor zone from the terminal zone. Connecting pieces screwed to the resistor elements supported on ceramic hold strips are used for connecting the cables. Each resistor element can be provided with a connection. Changes or supplements regarding the connections are easy, even retroactively.
Elements WE4,7 through to WE90 are mechanically sufficiently stable to be installed without additional fixature.
Elements WE125 through to WE700 are mounted with an acid-proof compound.
The resistors are available as standard banks, special banks or banks with double elements in 5 box sizes.



1 Ceramic spacer
2 Connecting pieces
3 Ceramic strips for connection
4 Support plate for ceramic strips with terminal marking

Resistors
with standard banks
The number of components for such units is already defined. A subsequent adjustment of the stepping is still possible at the place of installation within certain limits. A resistor set usually comprises several single or three-strand boxes. The terminal marking at the boxes is uniform so that the connection diagram of a resistor set is easy to set up.
Standard bank units facilitate the warehousing of spare parts for larger systems.

Resistors
with special banks
The number of components of these units is optimized for each individual application where standard bank units are not economical or too large in size.

Resistors
with double banks
For short-term and starting operations the use of double elements is often advantageous. Elements with the symbol DWE have double the storage capacity of standard WE elements. Compared with the number of elements of WE units, the number of installable elements is reduced by 6 (3x2).
The design is adjusted for each individual application. Standard sizes are not available.

Standard resistors

1. Single-strand standard bank resistors with uniform number of WE elements.
2. Three-strand standard bank resistors with uniform number of WE elements.
3. Three-strand standard bank resistors with partly increased no. of WE elements. Here, the first two resistor steps can be loaded with 1.4 times the current indicated in the tables. They are preferably used as end step for resistors in intermittent operation.

Installation
The resistors shall be installed horizontally such that the resistor elements between the ceramic strips are in upright position and the cooling air can rise freely between them.
The load values indicated in the tables apply for natural air cooling. Care must be taken that the cooling air has unrestricted access from the bottom and can exit freely at the top. The place of installation must have good venting. In particular in case of indoor installation care must be taken that the ambient air does not heat to temperatures above 45°C.
The indicated loads result in temperature rises of up to 260 K. For a temperature rise of max. 200 K the load must be reduced by 25% (current value x 0.866). In particular in case of intermittent operation with high duty factor or continuous operation, additional external venting with a fan can increase the rating and thus the admissible load.
The admissible loss for three stacked boxes is of about:

Size	Admissible loss
3PR3 0	4.0 kW
3PR3 2	6.0 kW
3PR3 4	8.0 kW
3PR3 6	11.0 kW
3PR3 8	13.0 kW

Connection
After taking off the side panel, the incoming cables can be inserted from below and directly connected to the terminal connections of the resistor elements.

Connecting bolts.....M12
Cable diameter up to .....1 x 150 mm²
2 x 120 mm²
Adm. continuous current.....400 A

The heat dissipated by the resistors must be considered for connection. Lines or cables should be inserted into each box individually from the side such that they are not located in the area of the outflowing dissipated heat or heat radiation.

For the maximum loads, DIN VDE 0298 T3/4 must be observed.
Where required, lines or cables suited for elevated temperatures shall be used or the ends of standard PVC cables/lines shall be covered with a heat-resistant insulating sleeve.

Maintenance
The resistors are maintenance-free. In case of strong dust formation, however, occasional cleaning with compressed air should be done to preserve the insulation against the grounded housing elements.

Accessories, spare parts

The circuit diagrams shown on page 1.9 indicate the position of the connections.
The connections can also be moved or supplemented retroactively. In this context care must be taken that the connections always rest on a ceramic support and that each ceramic support is fixed with at least two connecting elements.
When required, an additional connection kit 3PY6 can be supplied.
The corresponding kits are available to increase the protection class retroactively. When ordered together with the resistor, the kits are mounted at the workshop so that posterior mounting work is no longer required.

Type key

3PR3 ①②③ - ④⑤

3PR3 = system name
① = size :
0 = 3x3 or 1x13 elements
2 = 3x5 or 1x19 elements
4 = 3x7 or 1x25 elements
6 = 3x9 or 1x31 elements
8 = 3 x 11 or 1x37 elements
②③ = protection class
01 = IP00, all sizes
02 = IP10, all sizes
03 = IP13, only sizes 6 and 8
04 = IP23, only size 8
05 = IP20, all sizes
④⑤ = order supplement, no. of elements

When stacked, the number of boxes is indicated by a number separated from the system name with a slash:
2 boxes 2/3PR3..
3 boxes 3/3PR3..

Operating values

The **load values for the elements** indicated in the tables are applicable for individual installation.
For stacked installation of 2 or 3 boxes the load values indicated in the tables must be reduced:

2 stacked boxes
current value x 0.9

3 stacked boxes
current value x 0.83

Dimensions of the elements and diagram for
Planning the elements
for short-term operation on page 1.10

Standard elements

Resistance values			Admissible load cycle duration 120 s and duty factor of					Max. Short-circuit current	Current-time integral I^2t	Weight	offset at bottom		offset at top	
Rat.value mΩ	Cold value mΩ	Hot value mΩ	100% A	60% A	40% A	25% A	15% A	kA	kAs^2	ca. kg	Descr.	Order no.	Descr.	Order no. 3PY6 201-
4.7	4.2	5.5	334	428	514	646	799	12	38.2	1.0	WE 4,7	3A	WE 4,7/0	4A
6.5	5.9	7.7	284	364	437	549	679	10	28.6	1.1	WE 6,5	3B	WE 6,5/0	4B
9.0	8.1	10.6	242	309	371	467	577	9	20.8	1.17	WE 9	3C	WE 9/0	4C
12.5	11.3	14.8	205	262	315	396	490	7.5	14.9	1.17	WE 12,5	3D	WE 12,5/0	4D
17.5	15.8	20.7	173	222	266	335	414	6	9.66	0.97	WE 17,5	3E	WE 17,5/0	4E
24	21.8	28.3	148	189	227	286	354	5.3	7.07	1.07	WE 24	3F	WE 24/0	4F
34	30	40.1	124	159	191	240	197	4	4.74	0.9	WE 34	3G	WE 34/0	4G
47	42	55.5	106	135	162	204	253	3.5	3.42	0.93	WE 47	3H	WE 47/0	4H
65	59	77	90	195	138	174	215	3	2.47	0.94	WE 65	3J	WE 65/0	4J
90	81	106	70	98	117	148	183	2.5	1.79	0.92	WE 90	3K	WE 90/0	4K
125	113	148	65	83	100	125	155	2.1	1.08	0.88	WE 125	3L	WE 125/0	4L
175	158	207	55	70	84	106	131	1.7	0.77	0.83	WE 175	3M	WE 175/0	4M
240	220	280	47	60	72	90	112	1.4	0.57	0.78	WE 240	3N	WE240/0	4N
360	320	420	37	49	59	74	91	0.9	0.38	0.77	WE 360	3P	WE 360/0	4P
500	450	590	32	41	50	63	77	0.8	0.22	0.7	WE 500	3R	WE 500/0	4R
700	630	830	27	35	42	53	65	065	0.16	0.64	WE 700	3S	WE 700/0	4S

Double elements

Resistance values			Admissible load Cycle time 120 s and duty factor of					Max. Short-circuit current	Current-time integral I^2t	Weight	offset at the bottom		offset at the top	
Rat.value mΩ	Cold value mΩ	Hot value mΩ	100% A	60% A	40% A	25% A	15% A	kA	kAs^2	ca. kg	Descr.	Order no.	Descr.	Order no. 3PY6 201-
2.35	2.1	2.75	478	612	735	924	1143	24	153	2	DWE 4,7	5A	DWE 4,7/0	6A
3.25	2.95	3.85	406	520	624	785	971	20	114	2.2	DWE 6,5	5B	DWE 6,5/0	6B
4.5	4.05	5.3	345	442	530	667	825	18	83	2.2	DWE 9	5C	DWE 9/0	6C
6.25	5.65	7.4	293	375	450	566	700	15	59.5	2.3	DWE 12,5	5D	DWE 12,5/0	6D
8.75	7.9	10.4	248	317	381	479	593	12	38.6	2	DWE 17,5	5E	DWE 17,5/0	6E
12	10.8	14.2	211	270	324	408	504	10.6	28.3	2.1	DWE 24	5F	DWE 24/0	6F
17	15	20.1	177	226	272	342	423	8	19	1.8	DWE 34	5G	DWE 34/0	6G
23.5	21	27.8	151	193	232	292	361	7	13.7	1.85	DWE 47	5H	DWE 47/0	6H
32.5	29.5	38.5	128	164	196	247	306	6	9.87	1.9	DWE 65	5J	DWE 65/0	6J
45	40.5	53	109	139	167	210	260	5	7.17	1.8	DWE 90	5K	DWE 90/0	6K
62.5	56.5	74	92	117	141	178	220	4.2	4.32	1.7	DWE 125	5L	DWE 125/0	6L
87.5	79	104	77	98	118	148	184	3.4	3.09	1.65	DWE 175	5M	DWE 175/0	6M
120	110	140	64	82	98	123	153	2.8	2.29	1.5	DWE 240	5N	DWE240/0	6N

Cast iron resistors: system Siemens 3PR3.. selection and order data

Element	Load A [1] per strand for 3 stacked resistors and a duty factor d.f. of (cycle time 120 s)						Resistance values Ω for resistor size 3PR3①01-..					Order supplement 3PR3①01-
WE	100%	60%	40%	25%	15%	5%	0	2	4	6	8	④⑤

1-strand resistors in standard bank design

4.7	275	350	420	535	660	980	0.06	0.09	0.12	0.15	0.18	1A
6.5	230	300	355	450	550	830	0.09	0.12	0.16	0.2	0.24	1B
9	200	255	305	390	480	710	0.12	0.17	0.23	0.28	0.34	1C
12.5	170	215	260	330	410	600	0.16	0.24	0.31	0.39	0.46	1D
17.5	140	180	220	275	335	510	0.23	0.33	0.44	0.55	0.65	1E
24	120	155	185	235	290	430	0.31	0.46	0.6	0.75	0.89	1F
34	100	130	160	195	240	365	0.44	0.65	0.85	1.0	1.3	1G
47	86	110	135	168	205	305	0.61	0.89	1.18	1.45	1.75	1H
65	73	95	115	143	175	260	0.85	1.24	1.63	2.0	2.4	1J
90	63	82	100	124	150	225	1.17	1.7	2.25	2.8	3.35	1K
125	53	70	85	105	127	190	1.6	2.4	3.1	3.9	4.6	1L
175	45	60	70	88	108	160	2.3	3.3	4.4	5.5	6.5	1M
240	38	50	60	74	91	135	3.1	4.6	6.0	7.5	8.9	1N
360	31	39	48	60	74	110	4.7	6.8	9.0	11.1	13.3	1P
500	26	33	40	51	63	90	6.5	9.5	12.5	15.5	18.5	1R
700	22	28	34	43	53	78	9.1	13.3	17.5	21.7	26.0	1S

3-strand resistors in standard bank design

WE	100%	60%	40%	25%	15%	5%	0	2	4	6	8	④⑤
							3x	3x	3x	3x	3x	
4.7	275	350	420	535	660	980	0.014	0.023	0.03	0.04	0.05	3A
6.5	230	300	355	450	550	830	0.019	0.032	0.04	0.06	0.07	3B
9	200	255	305	390	480	710	0.027	0.045	0.06	0.08	0.1	3C
12.5	170	215	260	330	410	600	0.037	0.062	0.09	0.11	0.14	3D
17.5	140	180	220	275	335	510	0.052	0.087	0.12	0.15	0.19	3E
24	120	155	185	235	290	430	0.072	0.12	0.17	0.21	0.26	3F
34	100	130	160	195	240	365	0.1	0.17	0.24	0.30	0.37	3G
47	86	110	135	168	205	305	0.14	0.23	0.33	0.42	0.52	3H
65	73	95	115	143	175	260	0.195	0.32	0.45	0.58	0.72	3J
90	63	82	100	124	150	225	0.27	0.45	0.63	0.81	1.0	3K
125	53	70	85	105	127	190	0.37	0.62	0.87	1.12	1.4	3L
175	45	60	70	88	108	160	0.52	0.87	1.22	1.55	1.9	3M
240	38	50	60	74	91	135	0.72	1.2	1.65	2.15	2.6	3N
360	31	39	48	60	74	110	1.1	1.8	2.5	3.2	4.0	3P
500	26	33	40	51	63	90	1.5	2.5	3.5	4.5	5.5	3R
700	22	28	34	43	53	78	2.1	3.5	4.9	6.3	7.7	3S

3-strand resistors with upgraded end step starting with size 4

The end step can take on 1.4 times the current

WE	100%	60%	40%	25%	15%	5%	0	2	4	6	8	④⑤
									3x	3x	3x	
4.7/9	200	255	305	390	480	710	-	-	0.055	0.07	0.09	4C
6.5/12.5	170	215	260	330	410	600	-	-	0.075	0.1	0.12	4D
9/17.5	140	180	220	275	335	510	-	-	0.1	0.14	0.17	4E
12.5/24	120	155	185	235	290	430	-	-	0.15	0.19	0.24	4F
17.5/34	100	130	160	195	240	365	-	-	0.2	0.27	0.34	4G
24/47	86	110	135	168	205	305	-	-	0.28	0.38	0.47	4H
34/65	73	95	115	143	175	260	-	-	0.4	0.52	0.65	4J
47/90	63	82	100	124	150	225	-	-	0.55	0.72	0.9	4K
65/125	53	70	85	105	127	190	-	-	0.75	1.0	1.25	4L
90/175	45	60	70	88	108	160	-	-	1.05	1.4	1.75	4M
125/240	38	50	60	74	91	135	-	-	1.95	1.9	2.4	4N
175/360	31	39	48	60	74	110	-	-	2.2	2.9	3.6	4P
240/500	26	33	40	51	63	90	-	-	3.0	4.0	5.0	4R
360/700	22	28	34	43	53	78	-	-	4.2	5.6	7.0	4S

[1] For individual installation, the current values can be multiplied by 1.2 and for 2 stacked boxes by 1.1

Starter resistors

Order data

for first-time order:
Complete order number and in addition:
- motor rating
- for AC motors:
  - Rotor standstill voltage
  - Rated rotor current
- for DC motors:
  - Rated voltage
  - Rated current
- starting load factor
- number of starting steps
- application
- load torque
- moment of inertia
- speed

for re-order:
Complete order number and in addition
- serial no. of the unit already supplied

Admissible operating values Rotor standstill voltage for AC motors **max.3000 V** or rated voltage for DC motors: **max.1800 V** Motor rating for starting load factor f =				**Resistor data**							
2.0 kW	1.4 kW	1.0 kW	0.7 kW	Starter energy kJ	Starting time s	Starting frequency 1/h	Max. no. of steps for AC	Max. no. of steps for DC	No. of boxes	Order No. 3PR3 . ③ . -	Weight IP00 ca. kg
30	40	60	80	1200	20	10	2	8	1	3PR300③-9WA0	28
45	60	90	120	2250	25		3	10		3PR320③-9WA0	35
65	90	130	180	3200			5	15		3PR340③-9WA0	44
80	110	160	220	4100			7	20		3PR360③-9WA0	51
100	140	200	280	5250			8			3PR380③-9WA0	61
115	160	230	320	7100	30		10		2	3PR340③-9WA1	88
135	190	270	380	8900	33					3PR360③-9WA1	102
170	240	340	480	11200						3PR380③-9WA1	122
210	300	420	600	17700	40				3	3PR380③-9WA2	183
280	400	560	800	23000					4	3PR380③-9WA3	244
350	500	700	1000	28800					5	3PR380③-9WA4	305
420	600	840	1200	35500					6	3PR380③-9WA5	366
500	700	1000	1400	46500	45				8	3PR380③-9WA7	488
570	800	1140	1600	53200					9	3PR380③-9WA8	549
630	900	1260	1800	58500					10	3PR380③-9WB0	610
700	1000	1400	2000	64300					11	3PR380③-9WB1	671

③ supplement with the corresponding protection class (cf. type key)

Slip resistors

Motor rating in kW
for speed reduction in %

3-strand resistors

Size	5%	10%	15%	25%
0	56	29	20	11
2	98	49	32	20
4	135	67	46	27
6	175	88	56	32
8	220	110	67	42

1-strand resistors

Size	5%	10%	15%	25%
0	77	36	25	15
2	120	56	37	23
4	160	77	53	31
6	196	98	63	36
8	240	120	78	74

Control resistors

Order data

for first-time order:
Complete order number and in addition:
- motor rating
- power requirement at highest speed
- speed reduction in %
- torque characteristic (const., linear, square-law)
- for AC motors:
  - Rotor standstill voltage
  - Rotor rated voltage
- for DC motors:
  - Rated voltage
  - Rated current
- starting load factor f
- number of starting steps
- application
- load torque
- moment of inertia
- speed

for re-order:
Complete order number and in addition
- serial no. of the unit already supplied

Admissible operating values
Rotor standstill voltage for AC motors: **max.3000 V**
Rated voltage for AC motors: **max.1800 V**

Actual currency required in kW at highest speed and Speed reduction at constant load torque			Speed reduction at square-law rising load torque			Instal-lation	No. of boxes	Order No. 3PR3 . ③ . -	Weight IP00 ca. kg
25% kW	50% kW	75% kW	25% KW	50% kW	75% kW				
21	14	10	24	-	-	Individual Instal-lation	1	3PR340③-9WA0	44
34	23	17	43	-	-			3PR360③-9WA0	51
43	29	21	50	36	29			3PR380③-9WA0	61
50	35	25	56	40	32	max. 2 stacked boxes	2	3PR340③-9WA1	88
60	40	30	68	50	40			3PR360③-9WA1	102
75	50	37	80	60	50			3PR380③-9WA1	122
72	48	36	83	60	49	max. 3 stacked boxes 1)	3	3PR360③-9WA2	153
90	60	45	105	75	60			3PR380③-9WA2	183
120	80	60	140	100	80		4	3PR380③-9WA3	244
150	100	75	175	125	100		5	3PR380③-9WA4	305
180	120	90	210	150	120		6	3PR380③-9WA5	366
210	140	105	245	175	140		7	3PR380③-9WA6	427
270	180	135	315	225	180		9	3PR380③-9WA8	549
300	200	150	350	250	200		10	3PR380③-9WB0	610
360	240	180	420	300	240		12	3PR380③-9WB2	732
450	300	230	490	375	300		15	3PR380③-9WB5	915
540	360	270	630	450	360		18	3PR380③-9WB8	1098
720	480	360	840	600	480		24	3PR380③-9WC5	1464
900	500	450	1050	750	600		30	3PR380③-9WD2	1830
1080	720	540	1260	900	720		36	3PR380③-9WD8	2200

③ supplement protection class (cf. type key)
1) for 2 stacked boxes, load reduction 18%, for 3 stacked boxes load reduction 30%

Kits
to upgrade the protection class

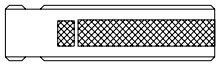
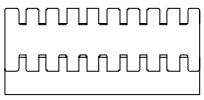
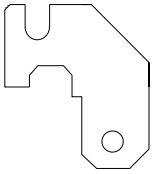
The units in the tables above can be supplied and/or adjusted to protection classes IP10, IP20, sizes 6 and 8 also to IP13, and size 8 to IP23.
When ordering the upgrade together with the basic resistor, the units will be supplied completely assembled.

When ordering the kits at a later date, installation must be done by the customer.
The kits must be selected in consideration of the type, installation and the number of boxes.

Example for ordering:
for a resistor 3PR3801- consisting of 7 boxes, upgrade to protection class IP23 for installation with 2 x 3 and 1 x 1 unit, 2 kits 3 x stacked and
1 kit for individual installation must be ordered.

Resistor type	Individual installation		2 stacked boxes		3 stacked boxes	
	Order no.	Weight ca. kg	Order no.	Weight ca. kg	Order no.	Weight ca. kg
Kit for protection class IP 10 consisting of cover and side grids						
3PR3 00	3PX6 223-0A	1.2	3PX6 223-0B	1.8	3PX6 223-0C	2.4
3PR3 20	3PX6 223-2A	1.4	3PX6 223-2B	2.1	3PX6 223-2C	2.9
3PR3 40	3PX6 223-4A	1.6	3PX6 223-4B	2.5	3PX6 223-4C	3.4
3PR3 60	3PX6 223-6A	2.0	3PX6 223-6B	3.0	3PX6 223-6C	4.1
3PR3 80	3PX6 223-8A	2.4	3PX6 223-8B	3.4	3PX6 223-8C	4.6
Kit for protection class IP13 consisting of a single-piece housing and side panels						
3PR3 60	3PX6 224-6A	9.6	3PX6 224-6B	13.5	3PX6 224-6C	17.4
3PR3 80	3PX6 224-8A	10.6	3PX6 224-8B	15.3	3PX6 224-8C	25.0
Kit for protection class IP20 consisting of cover and side grids and bottom plate						
3PR3 00	3PX6 226-0A	2.6	3PX6 226-0B	3.9	3PX6 226-0C	5.0
3PR3 20	3PX6 226-2A	3.3	3PX6 226-2B	4.9	3PX6 226-2C	6.5
3PR3 40	3PX6 226-4A	4.2	3PX6 226-4B	6.3	3PX6 226-4C	8.2
3PR3 60	3PX6 226-6A	5.0	3PX6 226-6B	7.6	3PX6 226-6C	10.0
3PR3 80	3PX6 226-8A	5.8	3PX6 226-8B	8.5	3PX6 226-8C	11.5
Kit for protection class IP23 consisting of terminal box and side panels						
3PR3 80	3PX6 225-8A	14.6	3PX6 225-8B	19.6	3PX6 225-8C	30

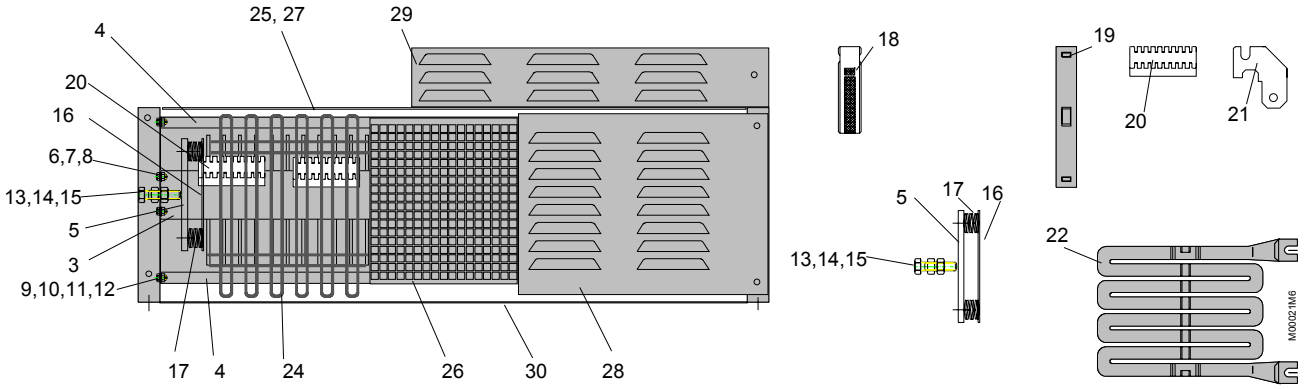
Accessories and spare parts
For resistors 3PR3.. and cast iron elements 3PY6 ..

Description		Remark	Order no.	Weight Ca. kg
Connection kit		Each kit: 3 ceramic holders 6 connecting pieces 2 connecting bolts M10	3PY6 204 – 1A	1.1
Ceramic Spacer		2 pcs. required per element	3PY6 203 – 0A	0.11
Ceramic holder for connecting pieces			3PY6 204 – 1C	0.19
Connecting piece with bolt M12			3PY6 204 – 1D	0.15
Filler compound, 1 bag, 1 kg	Mix 600 g with 75 g of water to a low viscous compound and process immediately. Pot life ca. 30 min	Resistor elements WE 125 .. WE 700 are fixed with compound between the ceramic spacers. When ordering these elements for the first time, always order the necessary amount of compound. Amounts required: 3PR3 00 - 0.6 kg 3PR3 20 - 0.8 kg 3PR3 40 - 0.8 kg 3PR3 60 - 1.0 kg 3PR3 80 - 1.2 kg	3PX6 206 – 0A	1.0

Cast iron resistors: system Siemens 3PR3.. spare and mounting parts

Item	Description	Order no.
1	Side panel, left	GSM115
2	Side panel, right	GSM116
3	**Mounting rail**	
3.1	341 mm for 3PR30	GSM059
3.2	461 mm for 3PR32	GSM060
3.3	581 mm for 3PR34	GSM061
3.4	696 mm for 3PR36	GSM062
3.5	811 mm for 3PR38	GSM063
4	**Guide rail**	
4.1	341 mm for 3PR30	GSM117
4.2	461 mm for 3PR32	GSM118
4.3	581 mm for 3PR34	GSM119
4.4	696 mm for 3PR36	GSM120
4.5	811 mm for 3PR38	GSM121
5	Clamping member A600 717	
6	Hex.nut DIN 933-M6x16	NSS933-0064
7	Spring washer DIN 137.B6	NSF137-0041
8	Hex.nut DIN 934.M8	NMS934-0041
9	Hex.bolt DIN 933-M8x20	NSS933-0095
10	Disk DIN 125-A8,4	NSS125-0053
11	Serrated lock washer DIN 6796-A8,4	NSZ6797-0031
12	Hex.nut DIN 934-M8	NMS934-0051
13	Hex.bolt DIN 933-M10x55	NSS933-0064
14	Hex.nut DIN 934-M10 (2x)	NMS934-0061
15	Spring washer DIN 137-B10	NSF137-0061
16	Holder A640 727	
17	Spring washer DIN 2093-34x16.3x1.5	
18	Ceramic spacer	3PY6 203-0A
19	Shim	GSZ009
20	Ceramic holder	3PY6 204-1C
21	Connecting piece with bolt	3PY6 204-1D
22	Cast iron element	3PY6 201-..
23	Spacer tube DIN 2440-3/8“x 80	
24	**Cover grids, IP10 for**	
24.1	3PR30	A 640 616
24.2	3PR32	A 640 615
24.3	3PR34	A 640 614
24.4	3PR36	A 640 613
24.5	3PR38	A 640 612

Item	Description	Order no.
25	**Cover grid, top, IP10 for**	
25.1	3PR30	A 640 620
25.2	3PR32	A 640 619
25.3	3PR34	A 640 618
25.4	3PR36	A 640 617
25.5	3PR38	A 640 611
26	**Perforated plate, IP20 for**	
26.1	3PR30	B 600 423
26.2	3PR32	B 600 425
26.3	3PR34	B 600 404
26.4	3PR36	B 600 405
26.5	3PR38	B 600 407
27	**Perforated plate, top, IP 20 for**	
27.1	3PR30	B 600 422
27.2	3PR32	B 600 424
27.3	3PR34	B 600368
27.4	3PR36	B 600 369
27.5	3PR38	A 640 612
28	**Slotted plate, IP13/23 for**	
28.1	3PR36	A 600 502
28.2	3PR38	A 600 500
29	**Cover, IP13/23, for**	
29.1	3PR36	A 600 503
29.2	3PR38	A 600 501
30	**Bottom plate, perforated, IP20/23**	
30.1	3PR30	A 600 522
30.2	3PR32	A 600 521
30.3	3PR34	A 600 520
30.4	3PR36	A 600 519
30.5	3PR38	A 600 486
w/o pic.	**Cable bushing for IP20/23**	
	3PR30	A 600 526
	3PR32	A 600 525
	3PR34	A 600 524
	3PR36	A 600 523
	3PR38	B 600 375
w/o pic.	**Compound 1 kg**	3PX6 206 – 0A



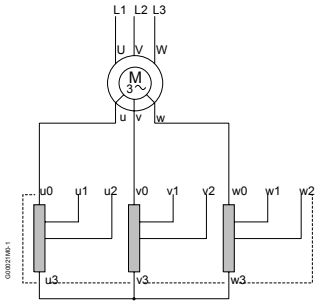
Cast iron resistors: system Siemens 3PR3.. wiring diagrams, terminal marking

Typical circuit

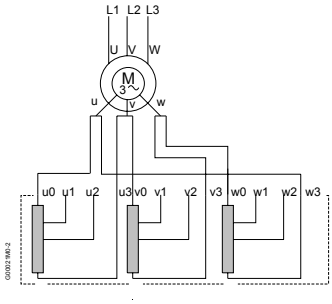
Three-strand resistors with 3 symmetrical resistor steps:

1st step	2nd step	3rd step Y connection	3rd step Δ connection
u_0-u_1	u_1-u_2	u_2-0	u_2-u_3
v_0-v_1	v_1-v_2	v_2-0	v_2-v_3
w_0-w_1	w_1-w_2	w_2-0	w_2-w_3

In the case of a starter with switch or contactor contacts, the end contacts and/or contacts of the end step contactor connect the sliprings of the motor u-v-w (pursuant to DIN 42400: K-L-M).



Y connection



Delta connection

Terminal markings

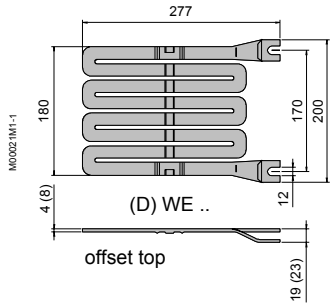
Marking of the terminals and corresponding proportionate values of the overall resistance

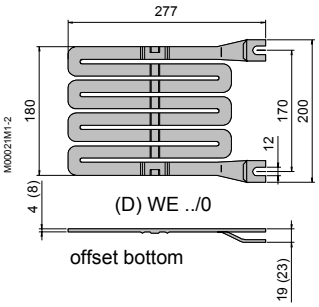
Single-strand

3PR3 00	Terminal markings Prop. values in % of the overall resistance	G00021M0-3 0 1 2 3 4 5 7 9 11 13 0 7,7 15 23 31 38 54 69 85 100%
3PR3 02	Terminal markings Prop. values in % of the overall resistance	0 1 2 3 4 5 7 9 11 15 19 0 5,2 10,5 16 21 26 37 47 58 79 100%
3PR3 04	Terminal markings Prop. values in % of the overall resistance	0 1 2 3 4 5 7 9 11 13 17 21 25 0 4 8 12 16 20 28 36 44 52 68 84 100%
3PR3 06	Terminal markings Prop. values in % of the overall resistance	0 1 2 3 4 5 7 9 11 13 15 17 19 23 27 31 0 3,2 6,5 10 13 16 23 29 35 42 48 55 61 74 87 100%
3PR3 08	Terminal markings Prop. values in % of the overall resistance	0 1 2 3 4 5 7 9 11 13 15 17 19 21 25 29 33 37 0 2,7 5,4 8 11 13,5 19 24 30 35 40 46 52 57 68 78 89 100%

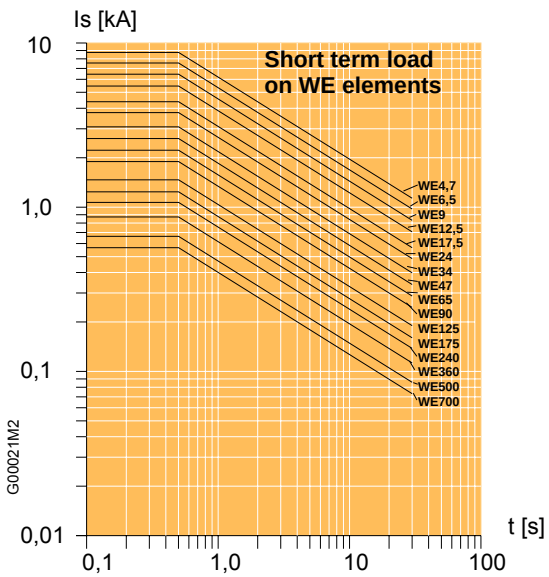
Three-strand

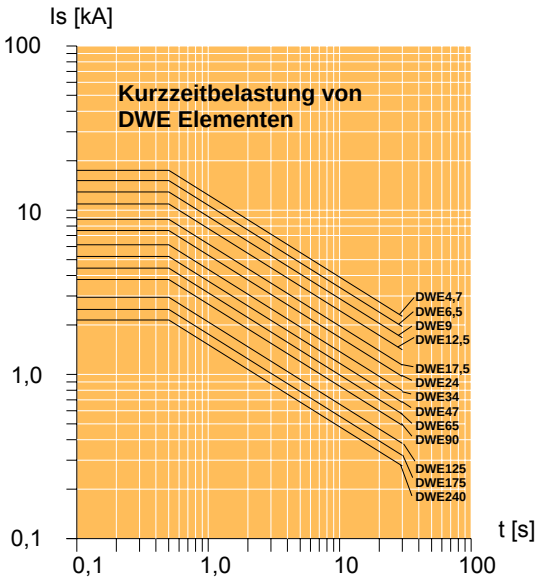
3PR3 00	Terminal markings Prop. values in % of the overall resistance	G00021M0-4 0 1 2 3 0 33 66 100%
3PR3 02	Terminal markings Prop. values in % of the overall resistance	0 1 2 3 5 0 20 40 60 100%
3PR3 04	Terminal markings Prop. values in % of the overall resistance	0 1 2 3 5 7 0 14 28 43 71 100%
3PR3 06	Terminal markings Prop. values in % of the overall resistance	0 1 2 3 5 7 9 0 11 22 33 55 78 100%
3PR3 08	Terminal markings Prop. values in % of the overall resistance	0 1 2 3 5 7 9 11 0 9 18 27 45 64 82 100%



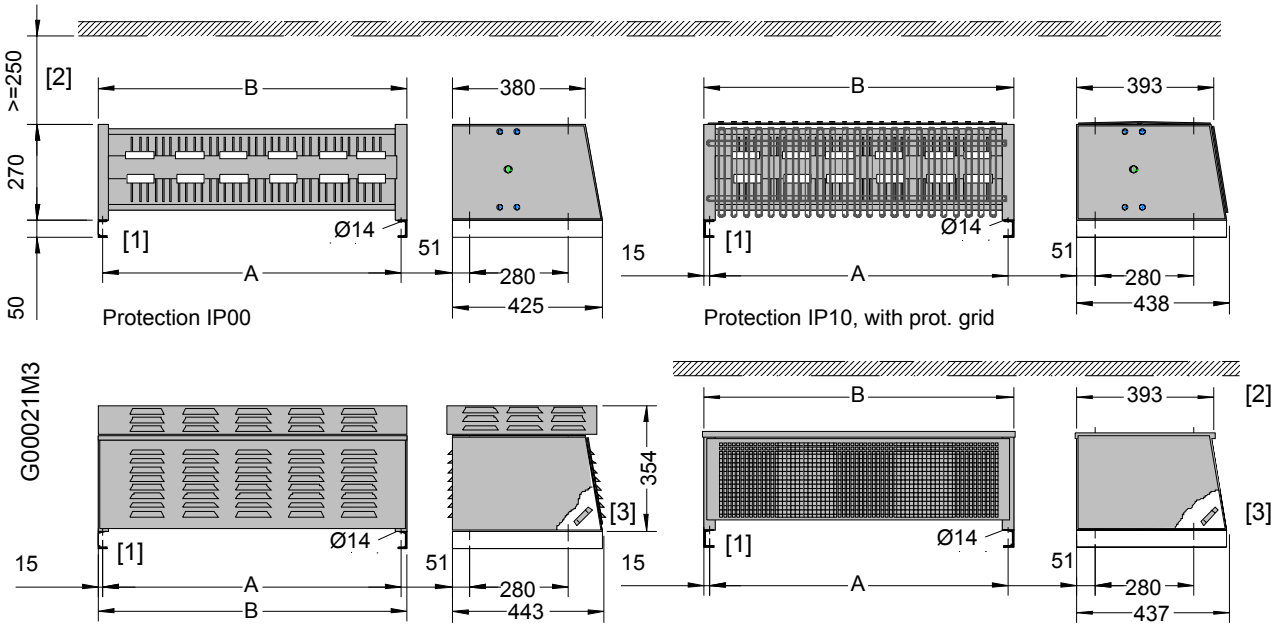


Cast iron elements WE, WE/0





Short-term loads acting on cast iron elements



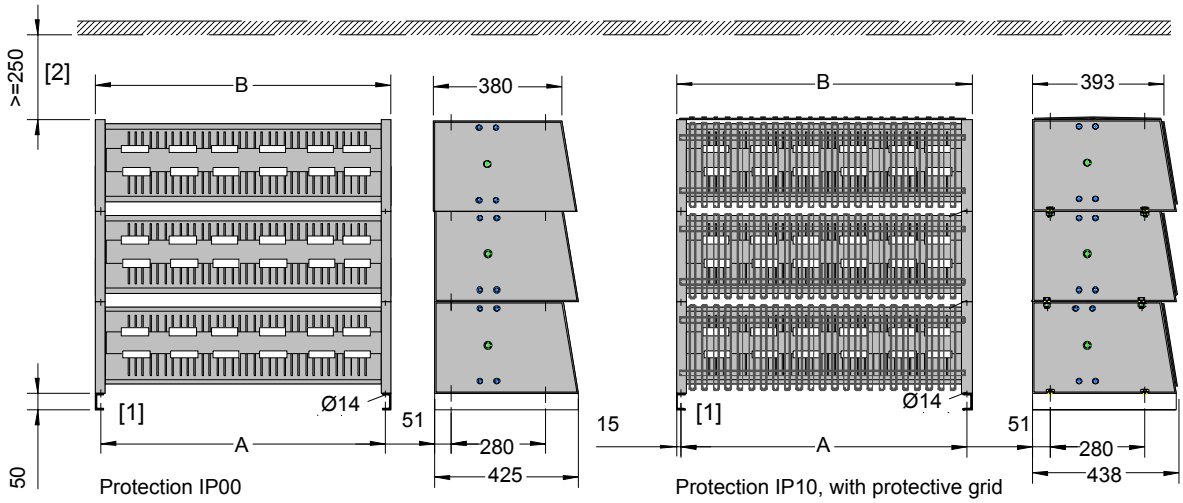
Resistors 3PR3 for individual installation

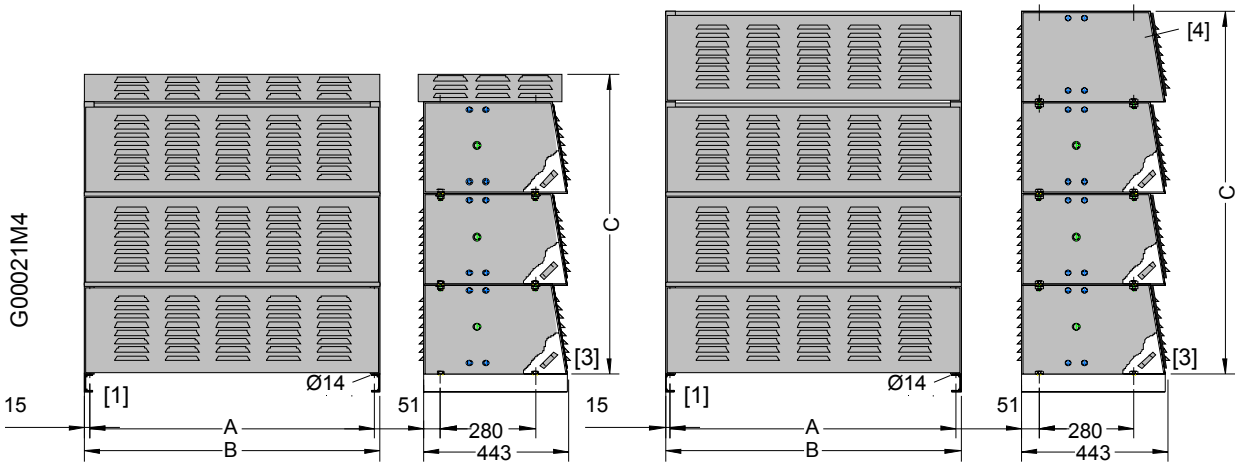
Widths		
Type	A	B
3PR30	375	405
3PR32	495	525
3PR34	615	645
3PR36	730	760
3PR38	845	875

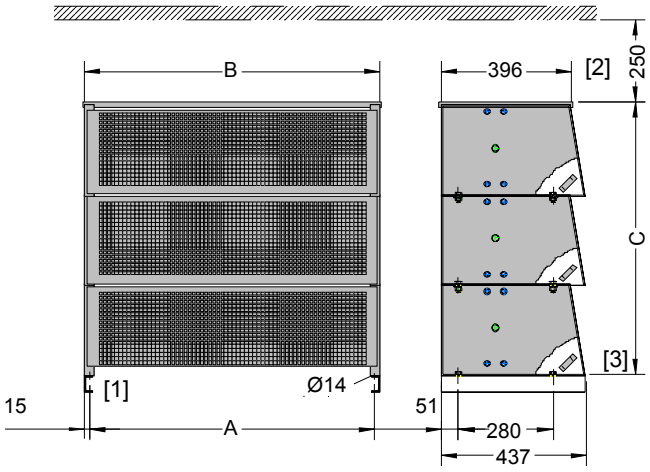
Weights ca kg					
Type	IP00	IP10	IP20	IP13	IP23
3PR30	28	29	31	-	-
3PR32	35	36	38	-	-
3PR34	44	46	48	-	-
3PR36	51	53	56	61	-
3PR38	61	63	67	72	76

[1] Bottom clearance ≥ 50 mm
[2] Top clearance minimum 250 mm
[3] Cable bushing
only for protection classes IP 20 and IP 23

Cast iron resistors: system Siemens 3PR3.. dimensions







Weight ca. kg					
Type	IP00	IP10	IP20	IP13	IP23
2/3PR30..	56	58	60	-	-
2/3PR32..	70	72	75	-	-
2/3PR34..	88	91	94	-	-
2/3PR36..	102	105	110	116	-
2/3PR38..	122	125	131	137	142
3/3PR30..	84	86	89	-	-
3/3PR32..	105	108	112	-	-
3/3PR34..	132	135	140	-	-
3/3PR36..	153	157	163	170	-
3/3PR38..	183	188	195	208	213

Cast iron resistors for stacked installation

Widths mm		
Type	A	B
3PR30	375	405
3PR32	495	525
3PR34	615	645
3PR36	730	760
3PR38	845	875

Dimension C mm for stacked installation		
Protection	2 boxes	3 boxes
IP 00	540	810
IP10	549	819
IP 13	623	893
IP 20	545	815
IP 23	812	1082

[1] Bottom clearance ≥ 50 mm
The hexagonal nuts required for fastening M12 x 25 are not included in the scope of supply.
[2] Minimum spacing at the top >= 250 mm
[3] Cable bushing
for protection classes IP 20 and IP 23
[4] Terminal box, without resistor