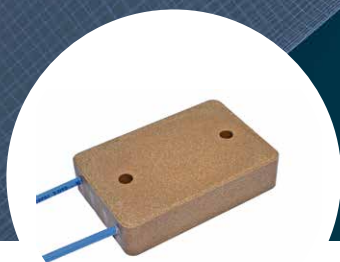
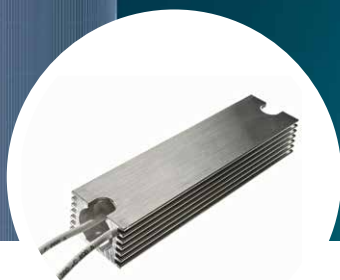


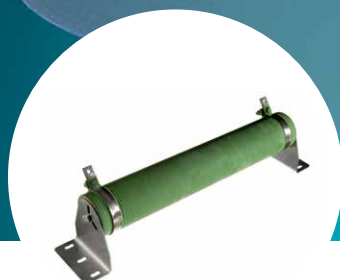
POWER RESISTORS



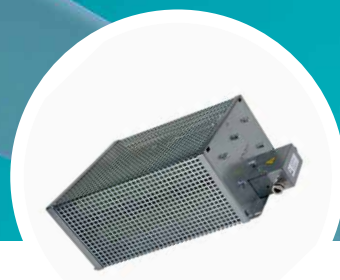
▶ PWR-C



▶ PWR-R



▶ PWR-TR



▶ PWR-X

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President Metallux USA, Inc.



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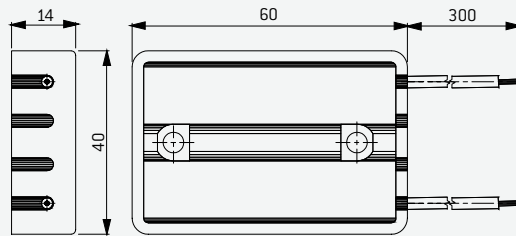
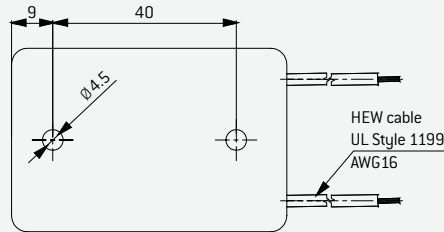
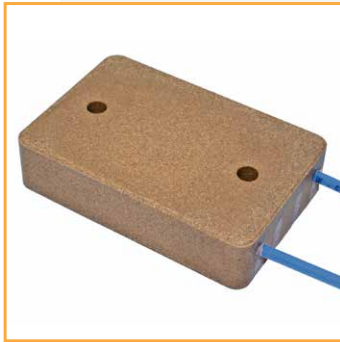
 Whether a standard resistor or a customised solution: Our power resistors are used in a multitude of areas, e.g. in gate control systems, in wind energy installations, in crane systems, and many more.

	PWR-C	Wire power resistor in ceramic casing	4
	PWR-S	Wire power resistor in aluminium casing 	5-6
	PWR-R	Wire power resistor in aluminium casing 	7
	PWR-O	Wire power resistor in aluminium casing 	8
	PWR-F	Wire power resistor in aluminium casing	9
	PWR-RFI	Wire power resistor in stainless steel casing	10
	PWR-GR	Resistor assembly with PWR-R	11
	PWR-GF	Resistor assembly with PWR-F	12
	PWR-TR	Wire and tube resistors PWR-TR2xx, PWR-TR3xx, PWR-TR4xx and assembly accessories PWR-TR	13-19
	PWR-X	Wire and tube resistors in stainless steel casing IP 20	20-21
		Special designs, Applications, Enquiry form	22-23

PWR-C WIRE POWER RESISTORS IN CERAMIC CASING



Wire resistors in ceramic casing are power resistors with high load capacity optimised for use in closed systems. Tried and tested resistor materials guarantee good long-term stability. Easy assembly and variable connection lines are the advantages of this Type series.



TYPE SELECTION AND DIMENSIONS

Type	Without cooling P_N at 25°C		Resistance values	Max. voltage	L_1	L_2	/g/
	$P_{NDC=30\%}$ /W/	$P_{NDC=100\%}$ /W/					
PWR-C 30	100 W	30 W	5R – 100R	600V \cong	60 mm	40 mm	80

SAMPLE ORDER

PWR-C30 50 R/J 300 mm connection lines

Inductance < 0.2 mH at 1 KHz

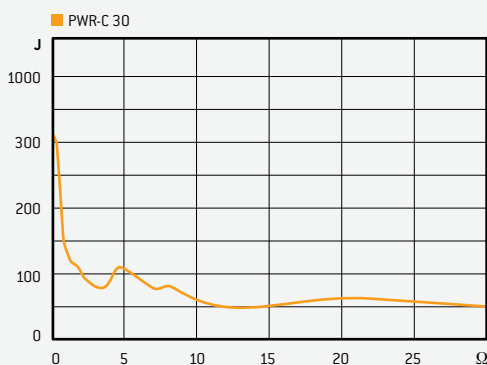
Time constant 4.5 to 5.8 min

Degree of protection IP 50

Storage temperature -10°C to +50°C

The duty cycle DC in percent is based on a cycle time of 120 sec.

PULSE ENERGY



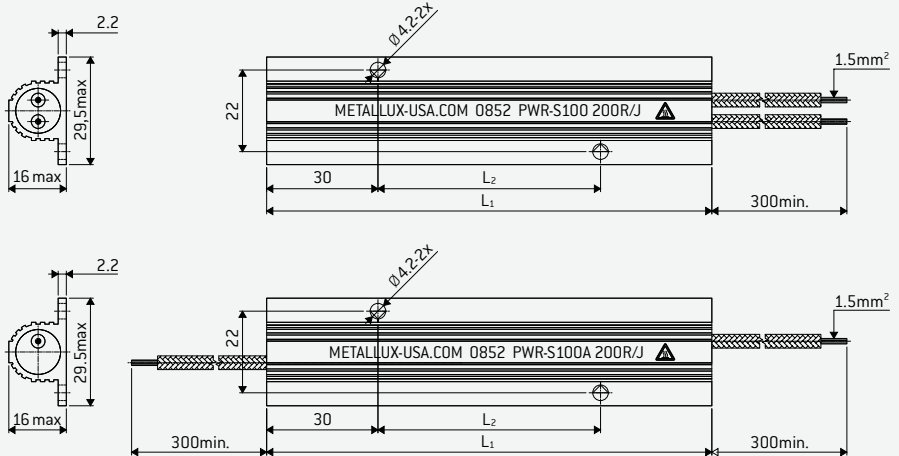
PARAMETER

Max. surface temperature	250°C
Tolerance	± 5%, ± 10%
Temperature coefficient TC	≤ ± 150 ppm/K
Stability at $P_{nominal}$ @ 25°C, 1000 h	± 5%
Max. overload capacity	10 x $P_{NDC=100\%}$, 5 sec
Insulation resistance at 500VDC	≥ 10 GΩ
Test voltage	800 V \cong
Connection lines	UL PTFE wire line AWG16 style 1199, 200°C, 600V

PWR-S WIRE POWER RESISTOR IN ALUMINIUM CASING



Wire resistors in aluminium profile combine the high pulse load capacity of conventional resistor materials with optimised thermal conduction and a high degree of protection. Assembly on a surface with good thermal conduction properties improves the heat dissipation additionally and leads to an increased load capacity. The series PWR-S satisfies the requirements of UL508 and is particularly suitable for applications as brake resistor, charging and discharging resistor, or also as heating resistor.



TYPE SELECTION AND DIMENSIONS

Type	Without cooling		With cooling	Resistance values	Max. voltage	L ₁	L ₂	L ₃	/g/
	P _{NDC=30%} /W/	P _{NDC=100%} /W/	P _N at 25°C						
PWR-S30	20	10	30W	0R8 – 51R	300V \cong	(40)	(30)	(5)	25
PWR-S45	30	15	45W	0R9 – 56R	400V \cong	55	25	15	35
PWR-S60	40	20	60W	1R5 – 110R	600V \cong	77	47	15	52
PWR-S90	60	30	90W	2R2 – 160R	700V \cong	104	64	20	73

SAMPLE ORDER

PWR-S30 35 R/J 150 mm connection lines

Inductance < 0.2 mH at 1 KHz

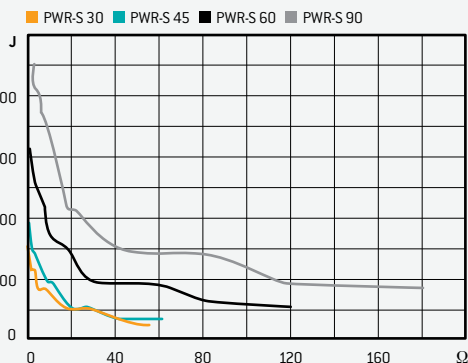
Time constant 6.6 to 7.1 min.

Degree of protection IP 55 (opt. IP 65)

Storage temperature 10°C to +50°C

The duty cycle DC in percent is based on a cycle time of 120 sec.

PULSE ENERGY



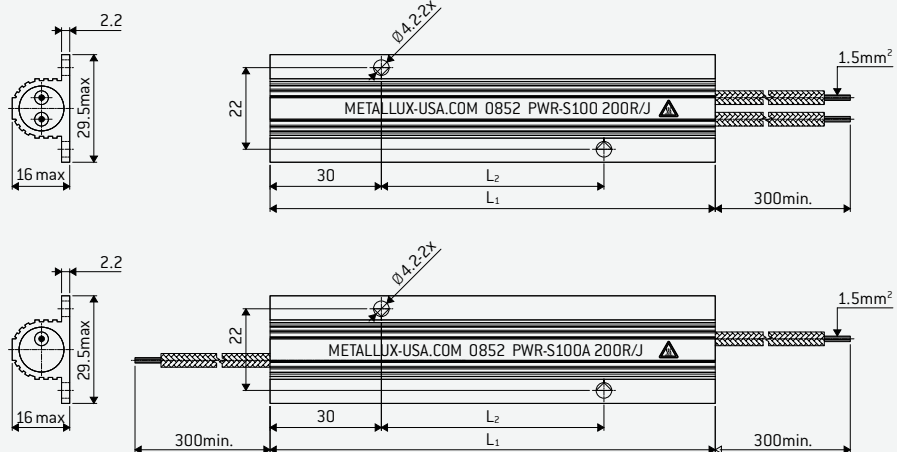
PARAMETER

Max. surface temperature	250°C
Tolerance	± 5%
Temperature coefficient TC	≤ ± 150 ppm/K
Stability at P_{nominal} @ 25°C, 1000 h	± 5%
Max. overload capacity	10 x P _{NDC=100%} , 5 sec
Insulation resistance at 500VDC	≥ 10 GΩ
Test voltage	4000 V \cong
Connection lines	UL SIFGL wire line AWG16 style 3071, 200°C, 600V UL PTFE wire line AWG16 style 1199, 200°, 600V UL FEP wire line AWG16 style 10203, 200°C, 600V

PWR-S WIRE POWER RESISTOR IN ALUMINIUM CASING (2)



Wire resistors in aluminium profile combine the high pulse load capacity of conventional resistor materials with optimised thermal conduction and a high degree of protection. Assembly on a surface with good thermal conduction properties improves the heat dissipation additionally and leads to an increased load capacity. The series PWR-S satisfies the requirements of UL508 and is particularly suitable for applications as brake resistor, charging and discharging resistor, or also as heating resistor.



TYPE SELECTION AND DIMENSIONS

Type	Without cooling		With cooling	Resistance values	Max. voltage	L ₁	L ₂	/g/
	P _{NDC} =30% /W/	P _{NDC} =100% /W/	P _N at 25°C					
PWR-S100	70	30	100 W	2R4 – 180R	700 V \cong	120	60	86
PWR-S100A	70	30	100 W	2R0 – 130R	700 V \cong	120	60	86
PWR-S125	85	40	125 W	3R9 – 300R	800 V \cong	165	105	115
PWR-S125A	85	40	125 W	3R0 – 220R	800 V \cong	165	105	115
PWR-S150	100	45	150 W	4R3 – 300R	1000 V \cong	180	120	120
PWR-S150A	100	45	150 W	3R3 – 240R	1000 V \cong	180	120	120

SAMPLE ORDER

PWR-S125 50 R/J 300 mm connection lines

Inductance < 0.2 mH at 1 KHz

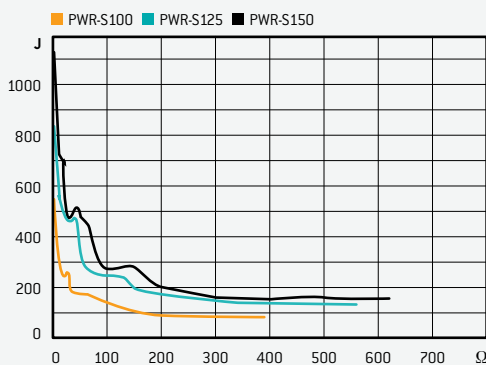
Time constant 6.6 to 7.1 min.

Degree of protection IP55 (opt. IP65)

Storage temperature -10°C at +50°C

The duty cycle DC in percent is based on a cycle time of 120 sec.

PULSE ENERGY



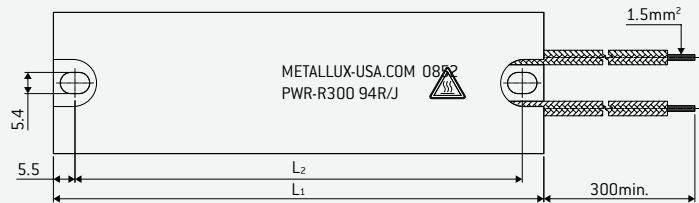
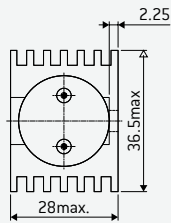
PARAMETER

Max. surface temperature	250°C
Tolerance	± 5% (J); ± 10% (K)
Temperature coefficient TC	≤ ± 150 ppm/K
Stability at P_{nominal} @ 25°C, 1000 h	± 5%
Max. overload capacity	10 x P _{NDC} =100%, 5 sec
Insulation resistance at 500VDC	≥ 10 GΩ
Test voltage	4000 V \cong
Connection lines	UL SIFGL wire line AWG16 style 3071, 200°C, 600V UL PTFE wire line AWG16 style 1199, 200°, 600V UL FEP wire line AWG16 style 10203, 200°C, 600V

PWR-R WIRE POWER RESISTOR IN ALUMINIUM CASING



Wire resistors in aluminium profile combine the high pulse load capacity of conventional resistor materials with optimised thermal conduction and a high degree of protection. Assembly on a surface with good thermal conduction properties improves the heat dissipation additionally and leads to an increased load capacity. The series PWR-R satisfies the requirements of UL508 and is particularly suitable for applications as brake resistor, charging and discharging resistor, or also as heating resistor.



TYPE SELECTION AND DIMENSIONS

Type	Without cooling		With cooling	Resistance values	Max. voltage	L ₁	L ₂	/g/
	P _{NED=30%} /W/	P _{NED=100%} /W/	P _N at 25°C					
PWR-R 150	120	45	150 W	1R6 – 180R	1000V \cong	90	79	180
PWR-R 200	160	60	200 W	2R2 – 240R	1000V \cong	105	94	208
PWR-R 300	240	70	300 W	4R7 – 420R	1500V \cong	155	144	310
PWR-R 400	320	80	400 W	6R8 – 620R	2000V \cong	200	189	400
PWR-R 500	400	100	500 W	9R1 – 910R	2300V \cong	260	249	515
PWR-R 600	480	120	600 W	12R – 1K2	2800V \cong	320	309	635

SAMPLE ORDER

PWR-R300 100 R/J 300 mm connection lines

Inductance < 0.2 mH at 1 KHz

Time constant 6.6 to 7.1 min.

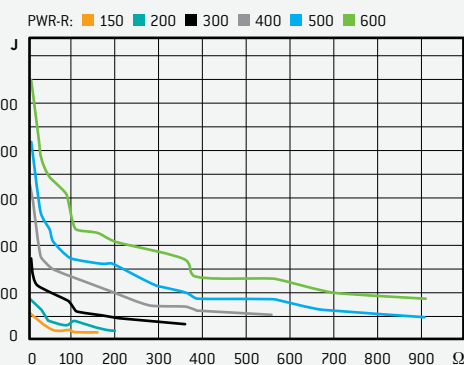
Degree of protection IP55 (opt. IP65)

Storage temperature –10°C at +50°C

PWR-RTxxx version with integrated temperature switch for all performance classes.

The duty cycle DC in percent is based on a cycle time of 120 sec.

PULSE ENERGY



PARAMETER

Max. surface temperature 250°C

Tolerance $\pm 5\%$

Temperature coefficient TC $\leq \pm 150$ ppm/K

Stability at P_{nominal} @ 25°C, 1000 h $\pm 5\%$

Max. overload capacity $10 \times P_{NDC}=100\%$, 5 sec

Insulation resistance at 500VDC ≥ 10 G Ω

Test voltage 4000 V \cong

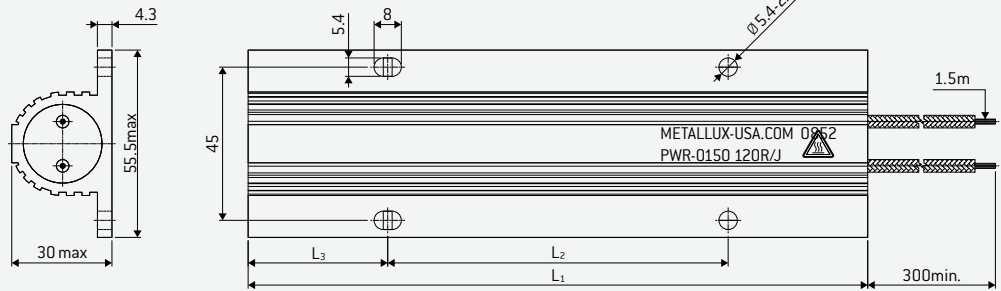
Connection lines

UL SIFGL wire line AWG16 style 3071, 200°C, 600V
UL PTFE wire line AWG16 style 1199, 200°, 600V
UL FEP wire line AWG16 style 10203, 200°C, 600V

PWR-0 WIRE POWER RESISTOR IN ALUMINIUM CASING



Wire resistors in aluminium profile combine the high pulse load capacity of conventional resistor materials with optimised thermal conduction and a high degree of protection. Assembly on a surface with good thermal conduction properties improves the heat dissipation additionally and leads to an increased load capacity. The series PWR-0 satisfies the requirements of UL508 and is particularly suitable for applications as brake resistor, charging and discharging resistor, or also as heating resistor.



TYPE SELECTION AND DIMENSIONS

Type	Without cooling		With cooling P_N at 25°C	Resistance values	Max. voltage	L_1	L_2	L_3	/g/
	$P_{NDC=30\%}$ /W/	$P_{NDC=100\%}$ /W/							
PWR-0 150	120	45	150 W	1R6 – 180R	1000 V \cong	72	40	16	195
PWR-0 200	160	60	200 W	2R2 – 240R	1000 V \cong	87	55	16	235
PWR-0 300	240	70	300 W	4R7 – 430R	1500 V \cong	137	85	26	325
PWR-0 400	320	80	400 W	6R8 – 620R	2000 V \cong	182	100	41	415
PWR-0 500	400	100	500 W	9R1 – 910R	2300 V \cong	242	160	41	530
PWR-0 600	480	120	600 W	12R – 1K2	2800 V \cong	302	220	41	670

SAMPLE ORDER

PWR-0150 56 R/J 300 mm connection lines

Inductance < 0.2 mH at 1 KHz

Time constant 6.6 to 7.1 min.

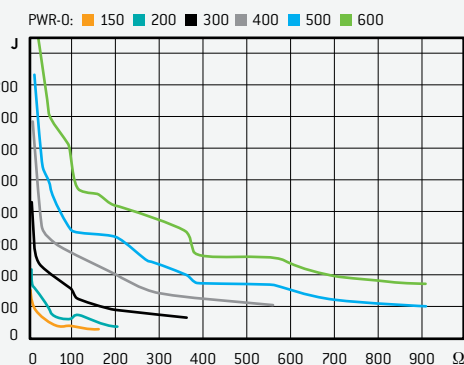
Degree of protection IP55 (opt. IP65)

Storage temperature -10°C at +50°C

PWR-0Txxx version with integrated temperature switch for all performance classes.

The duty cycle DC in percent is based on a cycle time of 120 sec.

PULSE ENERGY



PARAMETER

Max. surface temperature 250°C

Tolerance $\pm 5\%$

Temperature coefficient TC $\leq \pm 150$ ppm/K

Stability at $P_{nominal}$ @ 25°C, 1000 h $\pm 5\%$

Max. overload capacity $10 \times P_{NDC=100\%}$, 5 sec

Insulation resistance at 500VDC ≥ 10 GΩ

Test voltage 4000 V \cong

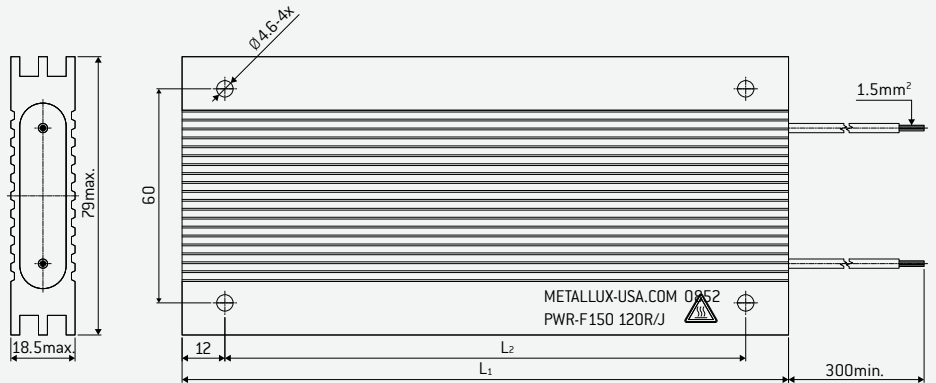
Connection lines

UL SIFGL wire line AWG16 style 3071, 200°C, 600V
UL PTFE wire line AWG16 style 1199, 200°, 600V
UL FEP wire line AWG16 style 10203, 200°C, 600V

PWR-F WIRE POWER RESISTOR IN ALUMINIUM CASING



Wire resistors in aluminium profile combine the high pulse load capacity of conventional resistor materials with optimised thermal conduction and a high degree of protection. Assembly on a surface with good thermal conduction properties improves the heat dissipation additionally and leads to an increased load capacity. The series PWR-F satisfies the requirements of UL508 and is particularly suitable for applications as brake resistor, charging and discharging resistor, or also as heating resistor.



TYPE SELECTION AND DIMENSIONS

Type	Without cooling		With cooling	Resistance values	Max. voltage	L ₁	L ₂	/g/
	P _{NDC} =30% /W/	P _{NDC} =100% /W/	P _N at 25°C					
PWR-F 150	225	75	150 W	2R2 – 220R	1000V≅	80	56	250
PWR-F 200	300	100	200 W	3R6 – 390R	1000V≅	110	86	350
PWR-F 300	450	150	300 W	5R6 – 560R	1500V≅	163	139	500
PWR-F 400	600	200	400 W	7R5 – 820R	1500V≅	216	192	650
PWR-F 500	750	250	500 W	10R – 1K	2000V≅	270	246	800
PWR-F 600	900	300	600 W	11R – 1K1	2000V≅	300	276	900

SAMPLE ORDER

PWR-F600 90 R/J 300 mm connection lines

Inductance < 0.2 mH at 1 KHz

Time constant 6.6 to 7.1 min.

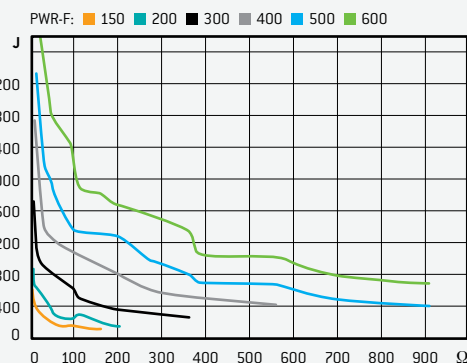
Degree of protection IP55 (opt. IP65)

Storage temperature –10°C at +50°C

PWR-FTxxx version with integrated temperature switch for all performance classes.

The duty cycle DC in percent is based on a cycle time of 120 sec.

PULSE ENERGY



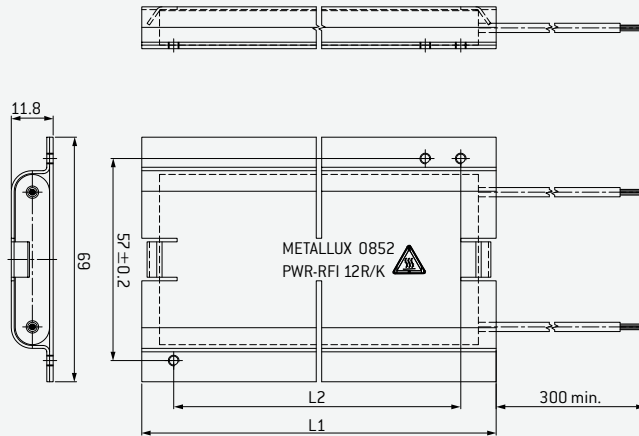
PARAMETER

Max. surface temperature	250°C
Tolerance	± 5%
Temperature coefficient TC	≤ ± 150 ppm/K
Stability at P_{nominal} @ 25°C, 1000 h	± 5%
Max. overload capacity	10 x P _{NDC} =100%, 5 sec
Insulation resistance at 500VDC	≥ 10 GΩ
Test voltage	4000 V≅
Connection lines	UL SIFGL wire line AWG16 style 3071, 200°C, 600V UL PTFE wire line AWG16 style 1199, 200°, 600V UL FEP wire line AWG16 style 10203, 200°C, 600V

PWR-RFI WIRE POWER RESISTOR IN STAINLESS STEEL CASING



The extremely flat and, at the same time, sturdy design of the wire power resistors in stainless steel casing make this resistor series interesting for all applications with limited installation space and rough environmental surroundings.



TYPE SELECTION AND DIMENSIONS

Type	Without cooling $P_{NDC=100\%} / W$	With cooling P_N at 25°C	Resistance values	Max. voltage	L ₁	L ₂	/g/
					mm	mm	
PWR-RFI 600	35	170 W	4R – 150R	1000V ≅	100	81	200
PWR-RFI 1300	65	320 W	8R – 430R	1500V ≅	202	175	420

SAMPLE ORDER

PWR-RFI600 33 R/J 300 mm connection lines

Inductance < 0.2 mH at 1 KHz

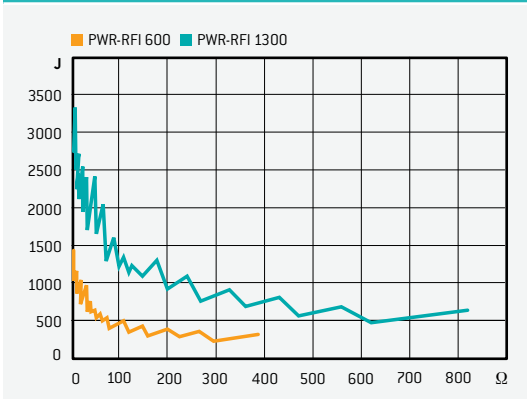
Time constant 5.2 to 6.7 min.

Degree of protection IP 33

Storage temperature – 10°C at +40°C

The duty cycle DC in percent is based on a cycle time of 120 sec.

PULSE ENERGY



PARAMETER

Max. surface temperature	250°C
Tolerance	± 10%
Temperature coefficient TC	≤ 150 ppm/K
Stability at P_{nominal} @ 25°C, 1000 h	± 10%
Max. overload capacity	10 × P _{NDC} 100%, 5s
Insulation resistance at 500VDC	≥ 10 GΩ
Test voltage	1500 V
Connection lines	UL PTFE wire line, style 1199, AWG16, 200°C, 600V

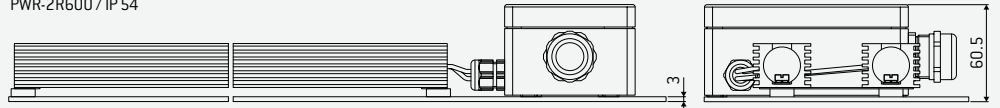
PWR-GR RESISTOR ASSEMBLY



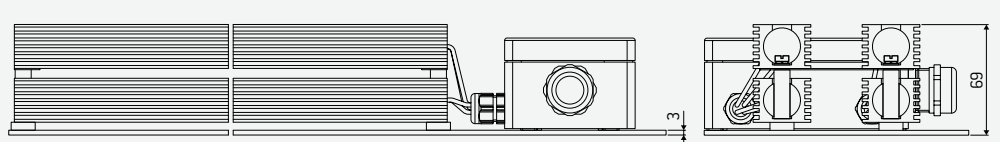
The type series PWR-GR consists of resistors of the type series PWR-R which are switched variably and connected by means of a terminal box. The basic version is optimised for two or four resistors. Besides that, any combination of resistor values and performances can be adapted.



PWR-2R600 / IP 54



PWR-4R600 / IP 54



TYPE SELECTION AND DIMENSIONS

Type	Resistance value	Nominal power	Max. pulse load	Max. voltage	L ₁	L ₂	/g/
					mm	mm	
PWR-2GR 600	4R1...3K0	240W	up to 6 KJ	600 V \equiv	460	440	2600
PWR-4GR 600	8R2...1K5	480W	up to 12 kJ	600 V \equiv	460	440	3900

SAMPLE ORDER

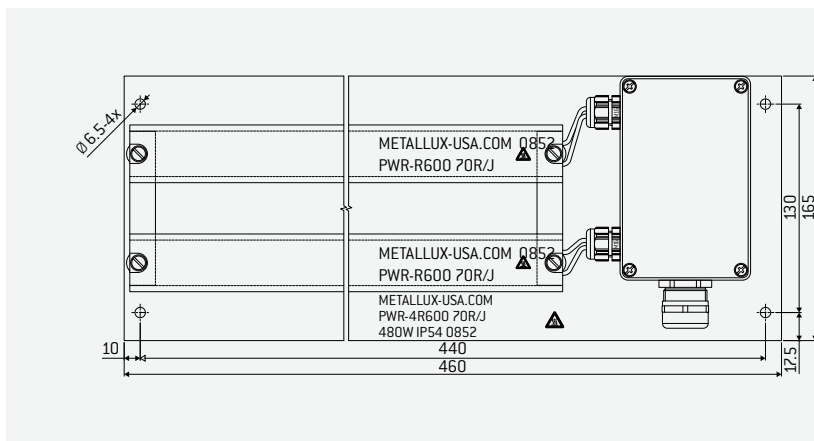
PWR-2GR600 100 R/J

Degree of protection IP 54 (IP 20)

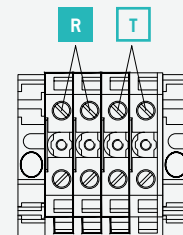
Storage temperature -40°C...+70°C

PARAMETER

Max. surface temperature	250°C	Tolerance	± 10%
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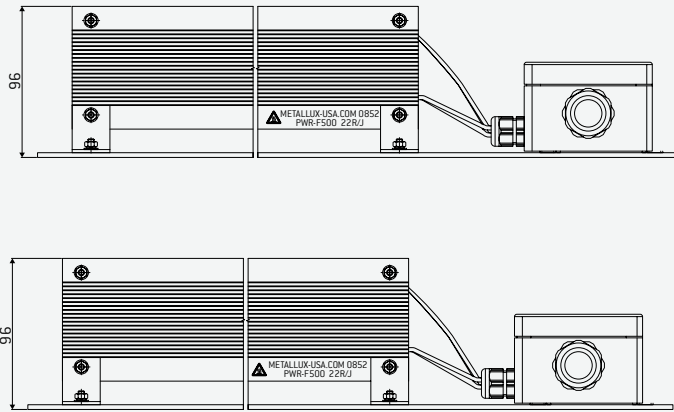
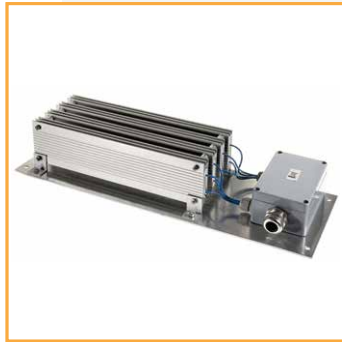
Weidmüller clamp
800 V / 32 A / 0.5 - 4 mm² [0.5 - 6 mm²]
R – resistor, T – temperature switch



PWR-GF RESISTOR ASSEMBLY



The type series PWR-GF consists of resistors of the type series PWR-R which are switched variably and connected by means of a terminal box. The basic version is optimised for two or four resistors. Besides that, any combination of resistor values and performances can be adapted.



TYPE SELECTION AND DIMENSIONS

Type	Resistance value	Nominal power	Max. pulse load	Max. voltage	L ₁	L ₂	/g/
					mm	mm	
PWR-2GF 500	5R0...2K0	500 W	up to 8 kJ	600 V ≅	460	440	2900
PWR-2GF 600	5R6...2K2	600 W	up to 9 kJ	600 V ≅	490	470	3100
PWR-4GF 500	2R7...3K9	1000 W	up to 16 kJ	600 V ≅	460	440	4500
PWR-4GF 600	2R7...4K3	1200 W	up to 18 kJ	600 V ≅	490	470	4900

SAMPLE ORDER

PWR-2GR600 100 R/J

Degree of protection IP 54 (IP 20)

Storage temperature -40°C...+70°C

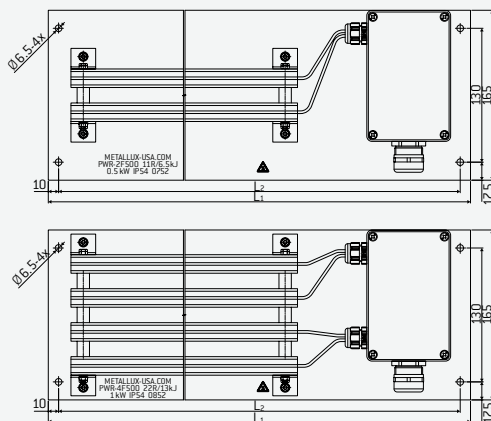
PARAMETER

Max. surface temperature

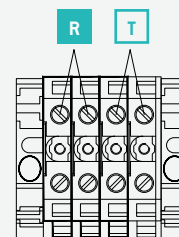
250°C

Tolerance

± 10%



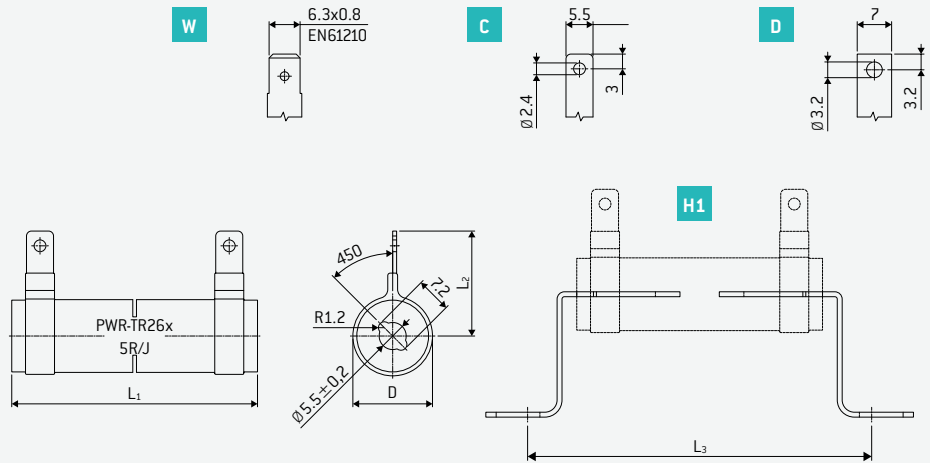
Weidmüller terminal
800V / 32A / 0.5 - 4 mm² [0.5 - 6 mm²]
R – resistor, T – temperature switch



PWR-TR 2XX WIRE AND TUBE RESISTOR UP TO 40W



Cemented wire tube resistors are thermally optimised resistor designs with a broad spectrum of resistance values and performances. Diverse combination possibilities of the electrical properties, as well as multiple connection and assembly options make these resistors interesting for several applications of automation technology and in mechanical and systems engineering.



TYPE SELECTION AND DIMENSIONS

Type	PN @25°C	Resistance value	Dmax	L ₁	L _{2max}	Weight	L ₃	Connection
			mm	mm	mm	g	mm	
PWR-TR 260.01	15 W	0R8 – 12K	17	50 ± 0.6	25	30	72 ± 1	C
PWR-TR 260	20 W	0R9 – 15K	17	60 ± 0.8	25	36	82 ± 1	B, D
PWR-TR 261	30 W	1R5 – 22K	17	80 ± 1.4	25	44	103 ± 1	B, D
PWR-TR 262	40 W	1R8 – 27K	17	100 ± 1.8	25	51	123 ± 1	B, D

PWR-TRR – Adjustable resistors with additional tap clamp

SAMPLE ORDER

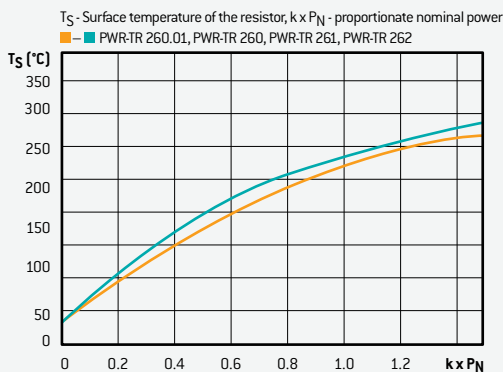
PWR-TR261 5K 5% B H1

Holder H1 (10g)

Degree of protection IP 00

Storage temperature – 25°C at +40°C

PERFORMANCE-TEMPERATURE-CURVE



PARAMETER

Tolerance ± 5% (± 10%)

Temperature coefficient TC ≤ ± 150 ppm/K

Stability at P_{nominal} @ 25°C, 1000 h ± 5%

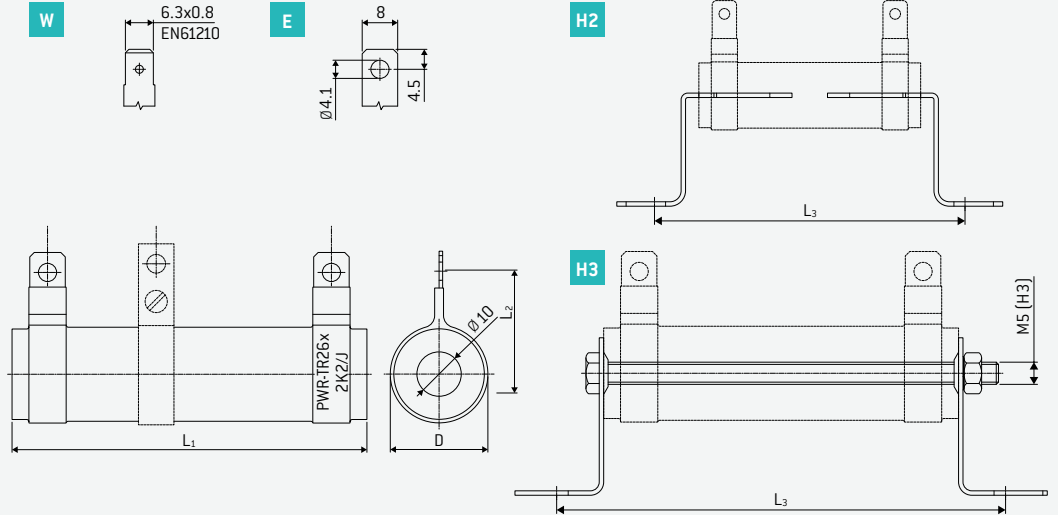
Max. overload capacity 10 x P_n in 5s

Test voltage against holder 1500 V

PWR-TR 2XX WIRE AND TUBE RESISTOR UP TO 100 W (2)



Cemented wire tube resistors are thermally optimised resistor designs with a broad spectrum of resistance values and performances. Diverse combination possibilities of the electrical properties, as well as multiple connection and assembly options make these resistors interesting for several applications of automation technology and in mechanical and systems engineering.



TYPE SELECTION AND DIMENSIONS

Type	PN @25°C	Resistance value	Dmax	L1	L2max	Weight	L3	Connection
			mm	mm	mm	g	mm	
PWR-TR 265	30 W	1R0 – 16K	24	55 ± 0.9	32	45	78 ± 1	C
PWR-TR 266	50 W	1R8 – 27K	24	80 ± 1.4	32	60	103 ± 1	B/E
PWR-TR 267	75 W	3R0 – 51K	24	120 ± 2.2	32	80	144 ± 1	B/E
PWR-TR 268	100 W	4R7 – 68K	24	164 ± 3	32	110	188 ± 1	B/E

PWR-TRR – Adjustable resistors with additional tap clamp

SAMPLE ORDER

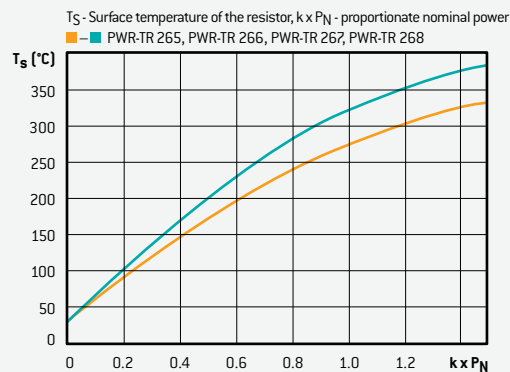
PWR-TR268 5 R 10% E H3

Holder H2 (17g)
H3 (34g)

Degree of protection IP 00

Storage temperature –25°C at +40°C

PERFORMANCE-TEMPERATURE-CURVE



PARAMETER

Tolerance ± 5% (± 10%)

Temperature coefficient TC ≤ ± 150 ppm/K

Stability at P_{nominal} @ 25°C, 1000 h ± 5%

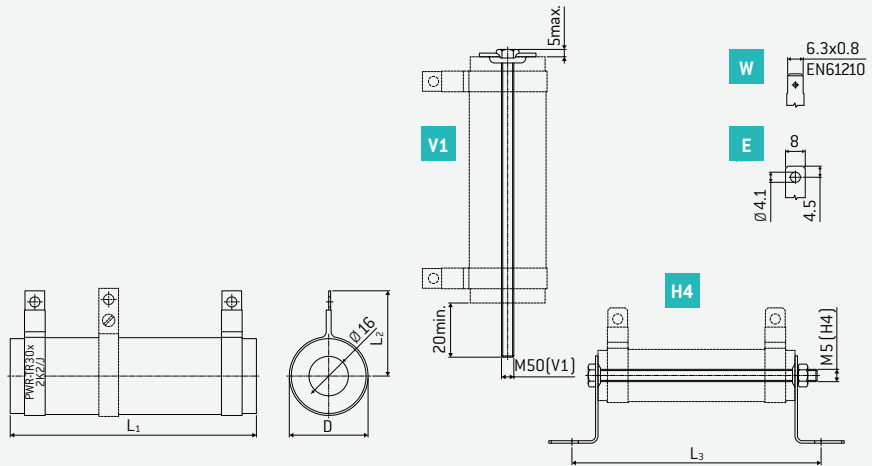
Max. overload capacity 10 x P_N in 5 sec

Test voltage against holder 2000 V

PWR-TR 3XX WIRE AND TUBE RESISTOR UP TO 200 W



Cemented wire tube resistors are thermally optimised resistor designs with a broad spectrum of resistance values and performances. Diverse combination possibilities of the electrical properties, as well as multiple connection and assembly options make these resistors interesting for several applications of automation technology and in mechanical and systems engineering.



TYPE SELECTION AND DIMENSIONS

Type	PN @25°C	Resistance value	Operational voltage	Dmax	L1	L2max	Weight	L3	Connection
				mm	mm	mm	g	mm	
PWR-TR 301	75 W	0R4 – 47K	1200V ≅	35	100 ± 1.8	40	130	124 ± 1	B/E
PWR-TR 302	100 W	0R6 – 82K	1500V ≅	35	135 ± 2.5	40	180	160 ± 1	B/E
PWR-TR 303	150 W	0R9 – 110K	2000V ≅	35	200 ± 3.8	40	270	226 ± 1	B/E
PWR-TR 304	200 W	1R2 – 120K	2500V ≅	35	275 ± 4.6	40	400	302 ± 1	B/E

PWR-TRR – Adjustable resistors with additional tap clamp

SAMPLE ORDER

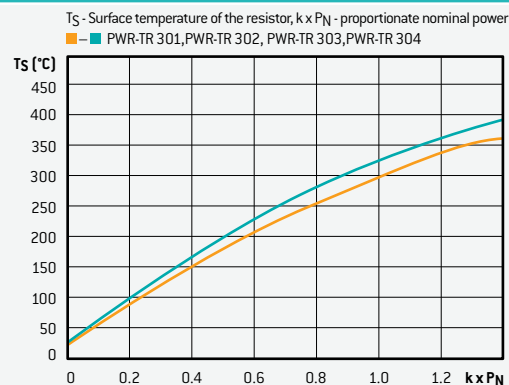
PWR-TR302 28 R 5% E V1

Holder H4 (55g)
V1 (29g)

Degree of protection IP 00

Storage temperature –25°C at +40°C

PERFORMANCE-TEMPERATURE-CURVE



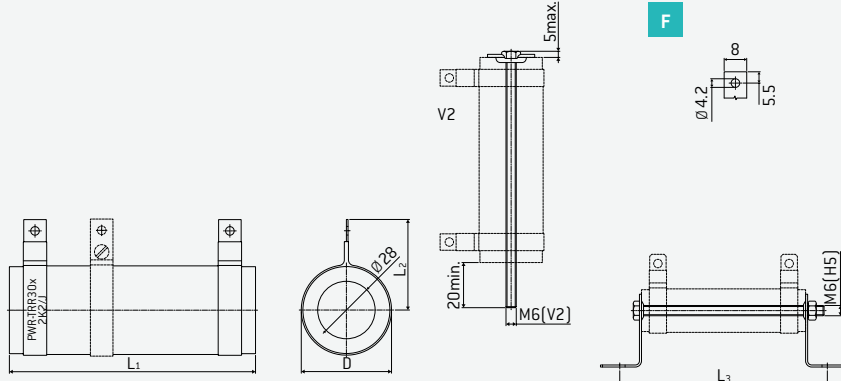
PARAMETER

Tolerance	± 5% (± 10%)
Temperature coefficient TC	≤ ± 150 ppm/K
Stability at P_{nominal} @ 25°C, 1000 h	± 5%
Max. overload capacity	10 x P _N in 5 sec
Test voltage against holder	3000 V ≅

PWR-TR 3XX WIRE AND TUBE RESISTOR UP TO 500 W (2)



Cemented wire tube resistors are thermally optimised resistor designs with a broad spectrum of resistance values and performances. Diverse combination possibilities of the electrical properties, as well as multiple connection and assembly options make these resistors interesting for several applications of automation technology and in mechanical and systems engineering.



TYPE SELECTION AND DIMENSIONS

Type	P _N @25°C	Resistance value	Operational voltage	D _{max}	L ₁	L _{2max}	Weight	L ₃	Connection
				mm	mm	mm	g	mm	
PWR-TR 305	200 W	0R7 – 82K	2 000 V	47	130 ± 3	50	300	155 ± 1	F
PWR-TR 306	300 W	1R0 – 120K	2 500 V	47	182 ± 3.4	50	400	208 ± 1	F
PWR-TR 307	400 W	1R5 – 160K	2 750 V	47	250 ± 4.2	50	550	277 ± 1	F
PWR-TR 308	500 W	2R6 – 200K	3 000 V	47	310 ± 5	50	700	337 ± 1	F

PWR-TRR – Adjustable resistors with additional tap clamp

SAMPLE ORDER

PWR-TR308 180 K 10% F H5

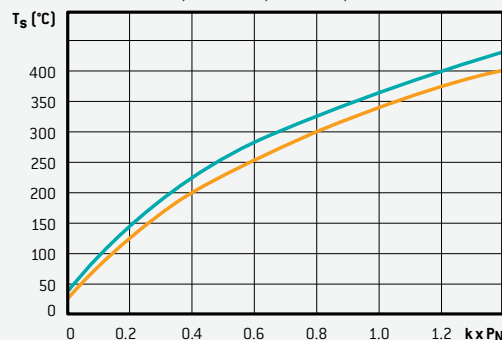
Holder H5 (91g)
V2 (57g)

Degree of protection IP 00

Storage temperature – 25°C at +40°C

PERFORMANCE-TEMPERATURE-CURVE

T_S - Surface temperature of the resistor, k x P_N - proportionate nominal power
 — PWR-TR 305, PWR-TR 306, PWR-TR 307, PWR-TR 308



PARAMETER

Tolerance ± 5% (± 10%)

Temperature coefficient TC ≤ ± 150 ppm/K

Stability at P_{nominal} @ 25°C, 1000 h ± 5%

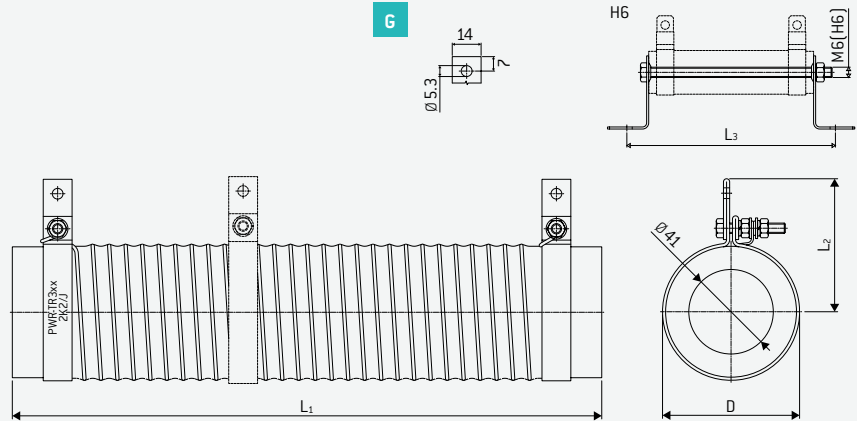
Max. overload capacity 10 x P_N in 5 sec

Test voltage against holder 4000 V ≅

PWR-TR 3XX WIRE AND TUBE RESISTOR UP TO 1300 W (3)



Cemented wire tube resistors are thermally optimised resistor designs with a broad spectrum of resistance values and performances. Diverse combination possibilities of the electrical properties, as well as multiple connection and assembly options make these resistors interesting for several applications of automation technology and in mechanical and systems engineering.



TYPE SELECTION AND DIMENSIONS

Type	PN @25°C	Resistance value	Operational voltage	Dmax	L1	L2max	Weight	L3	Connection
				mm	mm	mm	g	mm	
PWR-TR 309	750 W	3R6 – 130K	4 000 V	68	390±5.5	68	2 200	430±1	G
PWR-TR 310	1000 W	4R7 – 180K	4 500 V	68	515±6.8	68	2 800	555±1	G
PWR-TR 320	1300 W	6R2 – 180K	4 500 V	68	660±6.8	68	3 500	700±1	G

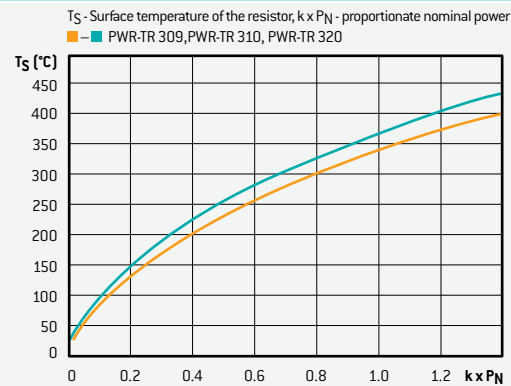
PWR-TRR – Adjustable resistors with additional tap clamp

SAMPLE ORDER

PWR-TR310 5R8 5% G H6

Holder	H6 (390g)
Degree of protection	IP00
Storage temperature	-25°C at +40°C

PERFORMANCE-TEMPERATURE-CURVE



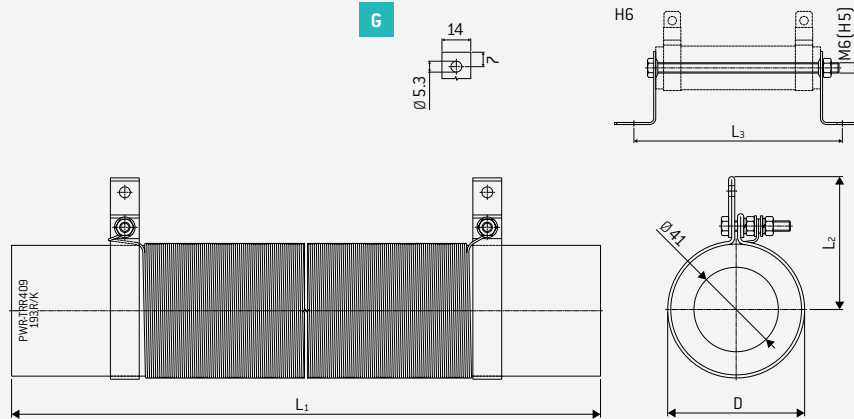
PARAMETER

Tolerance	± 5% (± 10%)
Temperature coefficient TC	≤ ± 150 ppm/K
Stability at P_{nominal} @ 25°C, 1000 h	± 5%
Max. overload capacity	10 x P _N in 5 sec
Test voltage against holder	4000V≅

PWR-TR 4XX WIRE AND TUBE RESISTOR



Tube resistors wrapped with oxidised resistor wire can utilise the maximum performance of the resistor material. The insulation effect of the oxide sheath allows for continuous wrapping without distance between the windings. This enables higher pulse performances as well as a broad spectrum of resistance values.



TYPE SELECTION AND DIMENSIONS

Type	PN @25°C	Resistance value	Operational voltage	Dmax	L ₁	L _{2max}	Weight	L ₃	Connection
				mm	mm	mm	g	mm	
PWR-TR 409	1500 W	4R7 – 1K5	4000 V \cong	68	390 \pm 5.5	68	3100	430 \pm 1	G
PWR-TR 410	2000 W	5R6 – 2K2	4500 V \cong	68	515 \pm 7.6	68	3750	555 \pm 1	G
PWR-TR 420	2600 W	8R2 – 2K7	4500 V \cong	68	660 \pm 8.3	68	5600	700 \pm 1	G

SAMPLE ORDER

PWR-TR409 40K 5% G H6

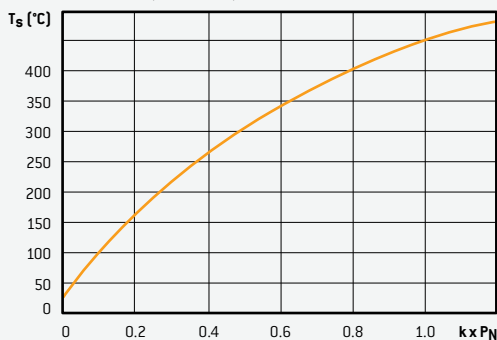
Holder H6 (390g)

Degree of protection IP 00

Storage temperature -25°C at +40°C

PERFORMANCE-TEMPERATURE-CURVE

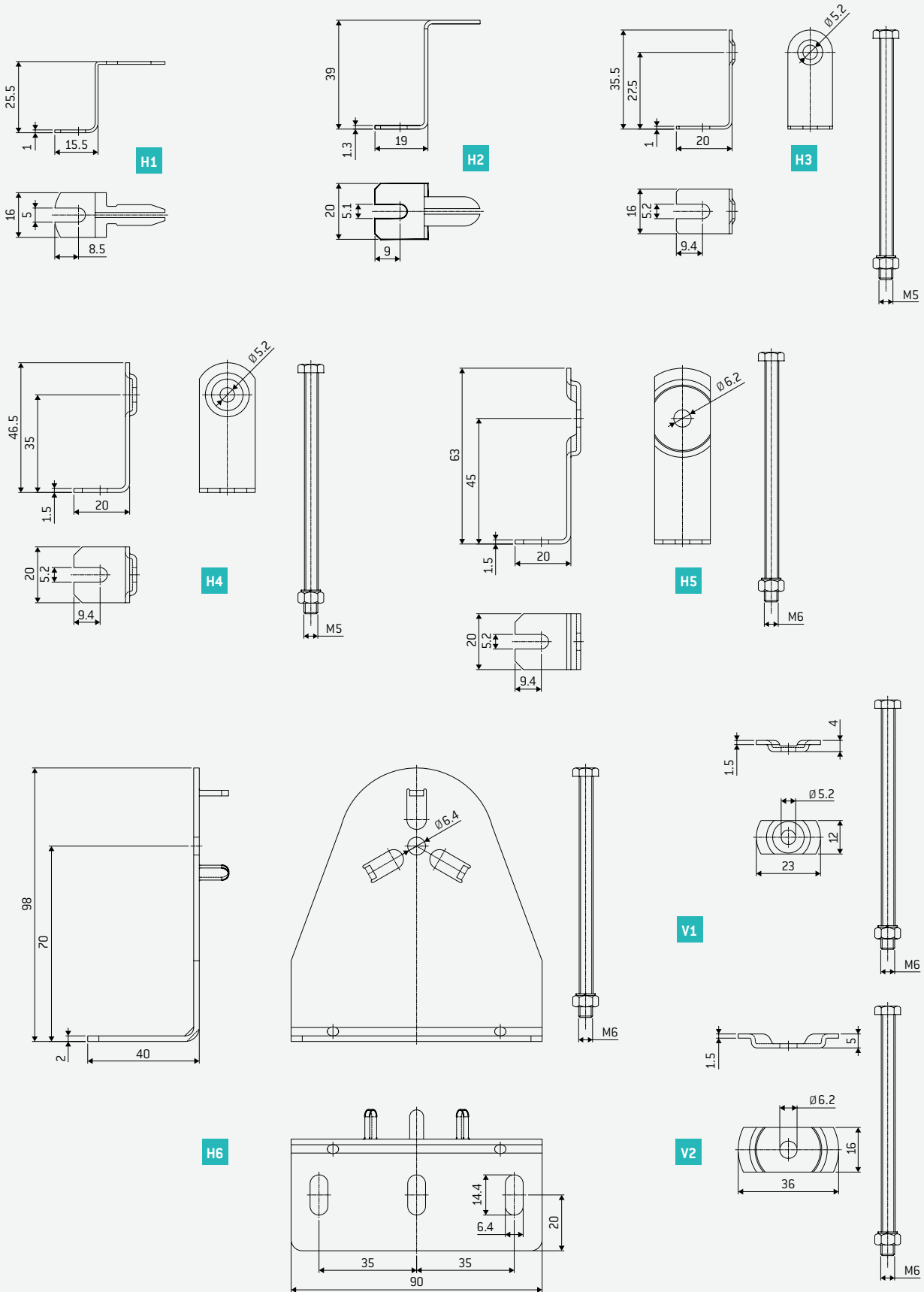
T_s - Surface temperature of the resistor, k x P_N - proportionate nominal power
 ■ PWR-TR 409, PWR-TR 410, PWR-TR 420



PARAMETER

Tolerance	± 5%
Temperature coefficient TC	≤ ± 150 ppm/K
Stability at P_{nominal} @ 25°C, 1000 h	± 5%
Max. overload capacity	10 x P _N , 5 sec
Test voltage against holder	4000 V \cong

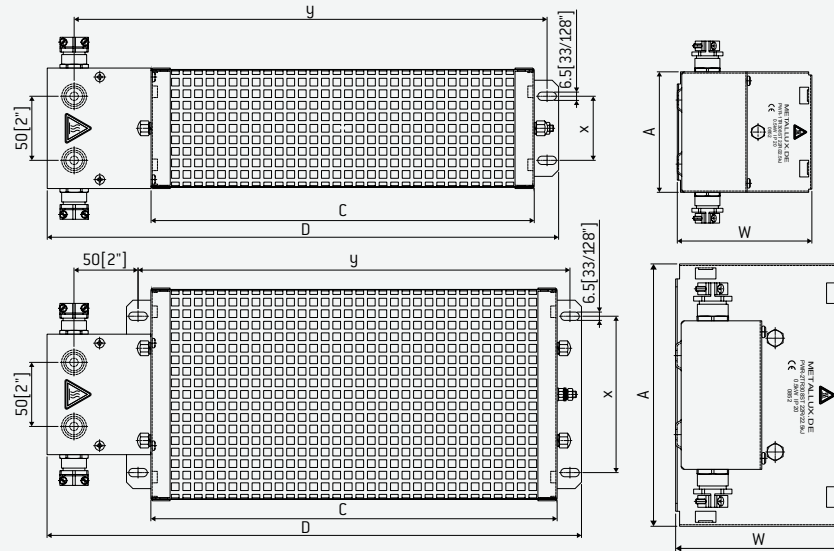
ASSEMBLY ACCESSORIES PWR-TR



PWR-X WIRE AND TUBE RESISTOR IN STAINLESS STEEL CASING IP 20



The resistor series PWR-X is a ready-to-install combination of tube resistors. Depending on the casing size and the installed tube resistor, a performance range from 400 W to 6 kW is covered. The type series are characterised by high flexibility and enable various individual solutions. As an option, we offer the matching temperature switch for each performance class.



TYPE SELECTION AND DIMENSIONS

Type	PN @25°C	Resistance value	W _{ad}	Surface temperature	A x B x C, D	x / y	Weight
					mm	mm	g
-1TR 307S (T)	400 W	5 R...100 R*	8 kJ*	max. 80°C	94 x 105 x 275, 375	50/345	1900
-1TR 308S (T)	500 W	5 R...100 R*	10 kJ*	max. 80°C	94 x 105 x 335, 435	50 / 405	2100
-2TR 307S (T)	800 W	5 R...100 R*	16 kJ*	max. 80°C	166 x 105 x 275, 375	122/295	2800
-2TR 308S (T)	1000 W	5 R...100 R*	20 kJ*	max. 80°C	166 x 105 x 335, 435	122/355	3100
-4TR 307S (T)	1600 W	5 R...100 R*	32 kJ*	max. 80°C	166 x 177 x 275, 375	122/295	4600
-4TR 308S (T)	2000 W	5 R...100 R*	40 kJ*	max. 80°C	166 x 177 x 335, 435	122/355	5200
-6TR 308S (T)	3000 W	5 R...100 R*	60 kJ*	max. 80°C	238 x 177 x 335, 435	194/355	7100

SAMPLE ORDER

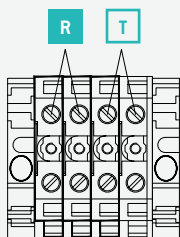
PWR-1TR308S 50 R 10%

Degree of protection IP 20

Storage temperature -40°C to +60°C

CONNECTION TERMINAL

Weidmüller terminal SAK 6 800V 41A 0.5 – 6 mm²
R – resistor, T – temperature switch



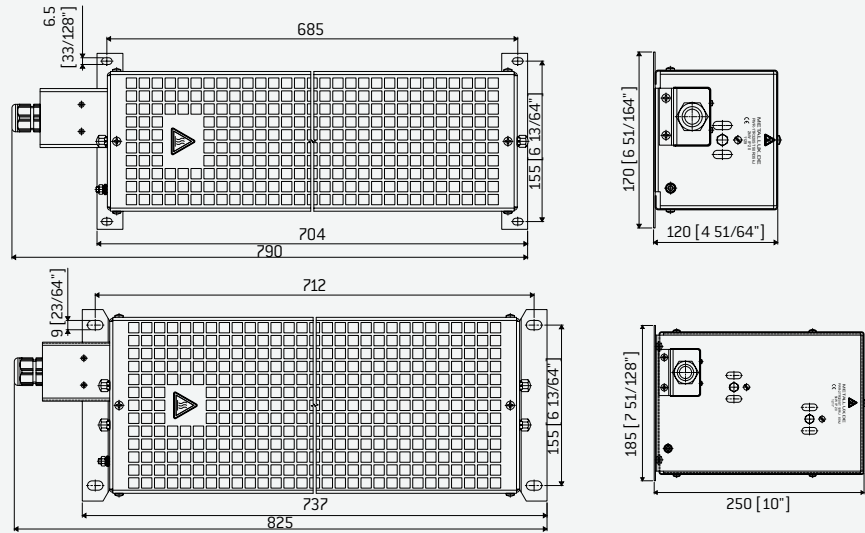
PARAMETER

Tolerance	± 10%
Temperature coefficient TC	≤ ± 150 ppm/K
Test voltage against holder	1500 V ≈

PWR-X WIRE AND TUBE RESISTOR IN STAINLESS STEEL CASING IP 20 (2)



The resistor series PWR-X is a ready-to-install combination of tube resistors. Depending on the casing size and the installed tube resistor, a performance range from 400 W to 6 KW is covered. The type series are characterised by high flexibility and enable various individual solutions. As an option, we offer the matching temperature switch for each performance class.



TYPE SELECTION AND DIMENSIONS

Type	PN @25°C	Resistance value	W _{ad}	Surface temperature	A x B x C, D	x / y	Weight
PWR-					mm	mm	g
-1TR 320S	2000 W	5 R...100 R*	40 kJ*	max. 250°C	170 x 120 x 704, 790	155/685	5500
-2TR 320S	5000 W	5 R...100 R*	80 kJ*	max. 250°C	185 x 250 x 737, 825	155/712	11000
-3TR 320S	6000 W	5 R...100 R*	120 kJ*	max. 250°C	327 x 230 x 737, 847	300/712	13200

SAMPLE ORDER

PWR-1TR308S 50 R 10%

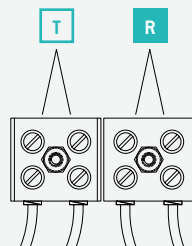
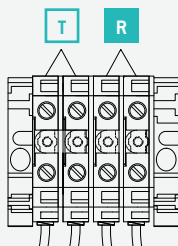
Degree of protection IP 20

Storage temperature -40°C to +60°C

CONNECTION TERMINAL

Weidmüller terminal
SAK 6 800V 41A 0.5 - 6mm²
R – resistor, T – temperature switch

Ceramic terminals



PARAMETER

Tolerance	± 10%
Temperature coefficient TC	≤ ± 150 ppm/K
Test voltage against holder	1500 V _≅

SPECIAL DESIGNS/APPLICATIONS



Thanks to their simple design, wire resistors are virtually limitless in their variability and, because of this, can be adapted to suit the most applications. On this page, you will find a few examples of this together with typical applications.



STARTING RESISTANCE FOR COMPRESSORS AND HEAT PUMPS



The decentralised use of regenerative energy sources has long been a key component of modern building automation. Power resistors equipped with a fuse are essential for limitation of initial current for compressor motors.



PRECHARGING RESISTOR



To protect the on-board electronics against overvoltage, power resistors are utilised in modern vehicles for a controlled initial start.



BRAKE RESISTOR (LIFTS)



One typical use case of brake resistors is for application in hoisting units. These include particularly lifts for persons and loads.



CHOPPER RESISTOR (CHAIN HOISTS AND CABLE HOISTS)



Crane, chain, and cable hoists create regenerative energy when lowering loads which must be dissipated in the intermediate circuit.

ENQUIRY FORM FOR POWER RESISTORS

1. Electrical nominal values				
	Resistance type	<input type="text"/>	If known	<input type="text"/>
	Resistance value	<input type="text"/>	Ω	<input type="text"/>
	Tolerance absolute	<input type="text"/>	%	<input type="text"/>
	TCR	<input type="text"/>	ppm/K	<input type="text"/>
	VCR	<input type="text"/>	ppm/V	<input type="text"/>

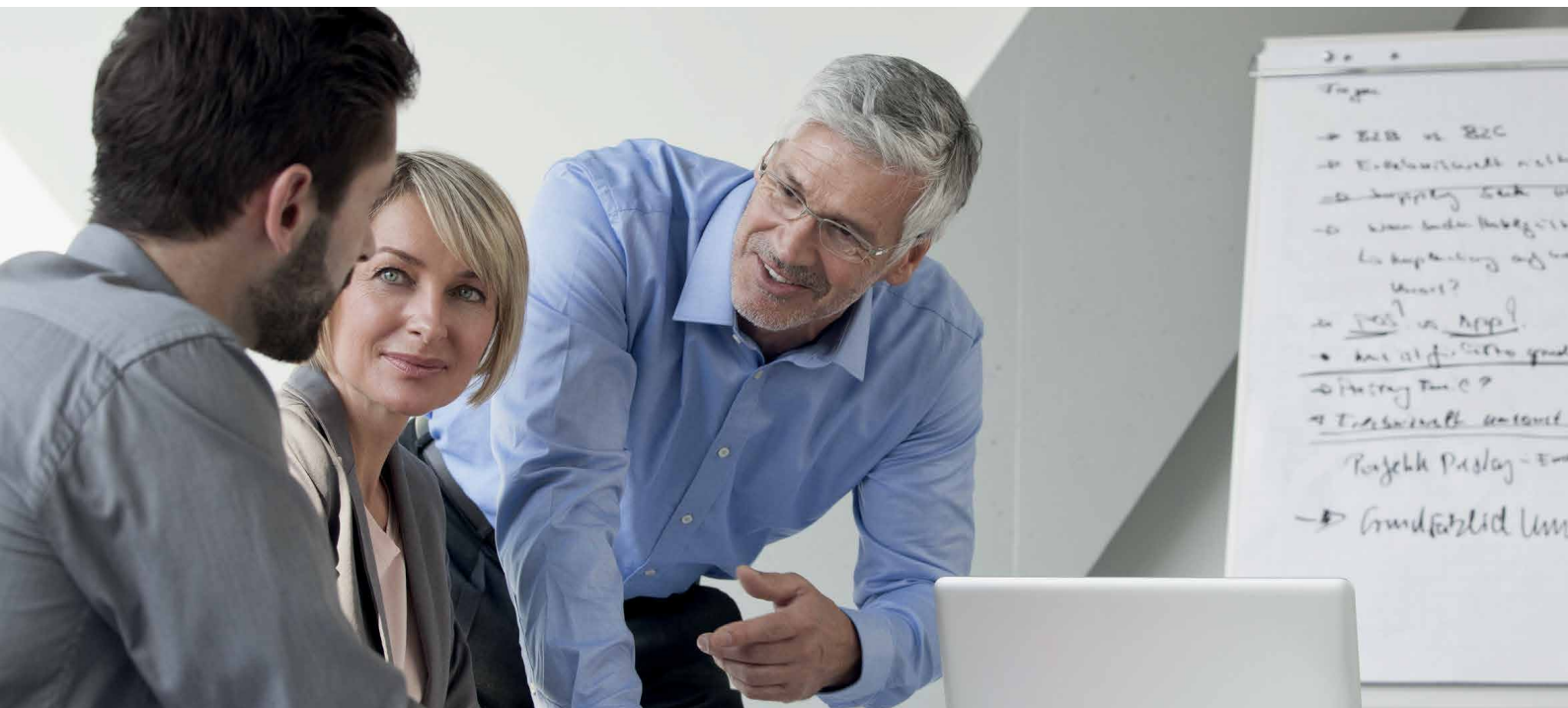
2. Operational conditions				
	Operational voltage	<input type="text"/>	V	<input type="text"/>
	Continuous power rating	<input type="text"/>	W	<input type="text"/>
	Max. performance	<input type="text"/>	W	<input type="text"/>
	Pulse form	<input type="checkbox"/> Rectangle <input type="checkbox"/> Triangle		Charging/Discharging function <input type="text"/> Capacity <input type="text"/> F
	Pulse length (sound)	<input type="text"/>	sec.	Other pulse form - please provide a curve
	Pause time (toff)	<input type="text"/>	sec.	<input type="text"/>
	Cycle	<input type="text"/>	DC%	<input type="text"/>

4. Ambient conditions				
	Ambient temperature	<input type="text"/>	°C	<input type="text"/>
	Humidity	<input type="text"/>	% r.h.	<input type="text"/>
	Degree of protection	<input type="text"/>		<input type="text"/>

5. Mechanical features				
	Length	<input type="text"/>	mm	<input type="text"/>
	Width or diameter	<input type="text"/>	mm	<input type="text"/>
	Connection lines (cable type)	<input type="text"/>	If they deviate from standard	<input type="text"/>
	Length of the connection lines	<input type="text"/>	mm	<input type="text"/>

6. Quantity, delivery date				
	Quantity	<input type="text"/>	Units	<input type="text"/>
	Delivery date	<input type="text"/>	Calendar week / Year	<input type="text"/>

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