ISABELLENHÜTTE
Innovation by Tradition

ISA-WELD® // PRECISION RESISTORS

BAL // SIZE 5216 (METRIC)

Features

- Up to 12 W permanent power
- Continuous current load up to 350 A
- High pulse power rating
- Shunt available with tinned or untinned terminals
- AEC-Q200 qualification

RoHS

Applications

- Current sensor for EBM (Electronic Battery Management) in motorcars, trucks, forklifts, hybrid and electric vehicles
- Current sensing in bus bars

Technical data

Resistance values	**mOhm**	0.1
Tolerance	**%**	5
Temperature coefficient (20-60 °C)	**ppm/K**	20 ± 40
Applicable temperature range	**°C**	-40 to +170
Power rating [*P*]	**W**	12
Internal heat resistance (R_{thi})	**K/W**	2
Stability (Nominal load) deviation after 2,000 h		< 0.3 % ($T_{max.}$ = 125 °C) < 0.5 % ($T_{max.}$ = 140 °C) < 1.0 % ($T_{max.}$ = 170 °C)

Note
For calculation of the maximum derating terminal temperature (T_K) the following formula can be used: $T_K = T_{max.} - (R_{thi} \times P)$.

Ordering code example

BAL - M - R0001 - V01 - 5.0 (-Sn)

- Sn = tinned version
- Tolerance
- Version
- Resistance value [Ohm] / „R“ represents decimal point
- Material (MANGANIN®)
- Type

Information

Packaging

140 pcs. per tube for automotive parts

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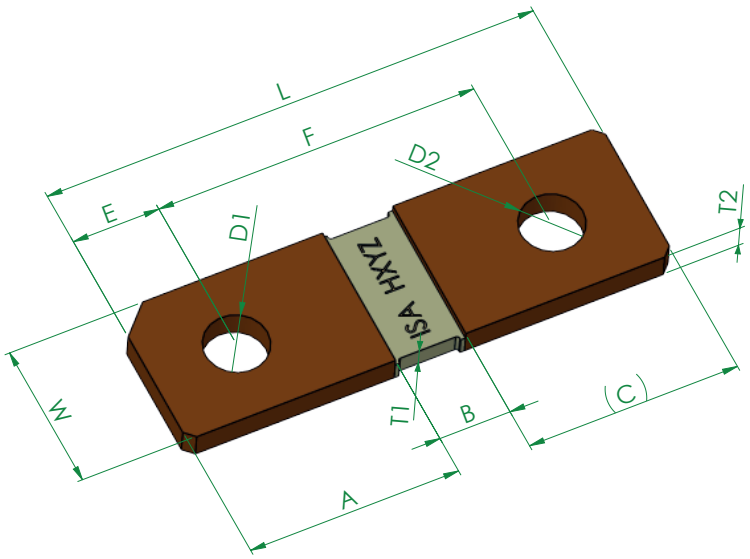
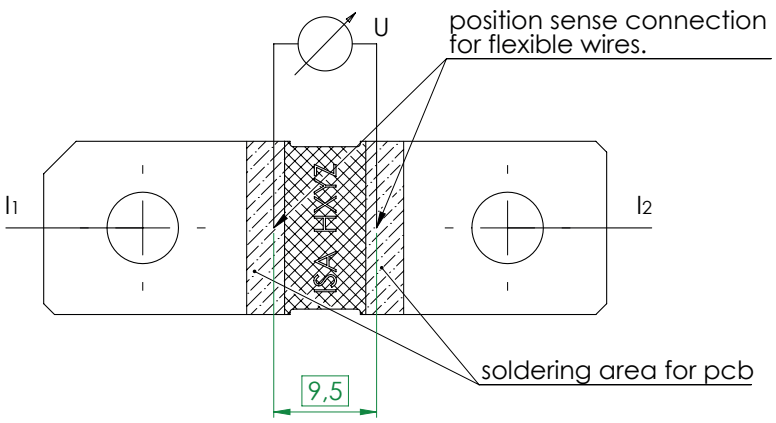
Mechanical dimensions [mm] // Z-YN-744c



type	A	B	C	D1	D2	E
BAL-M-R0001-V01-5.0	22.25 ±0.3	7.5 ±0.3	(22.25)	Ø6.6 ±0.1	Ø6.6 ±0.1	9.15 ±0.3
BAL-M-R0001-V01-5.0-Sn	22.25 ±0.3	7.5 ±0.3	(22.25)	Ø6.6 ±0.1	Ø6.6 ±0.1	9.15 ±0.3
BAL-M-R0001-V07-5.0-Sn	22.25 ±0.3	7.5 ±0.3	(22.25)	Ø7.2 ±0.1	Ø7.2 ±0.1	9.15 ±0.3

type	F	L	T1	T2	W	Copper surface
BAL-M-R0001-V01-5.0	33.7 ±0.2	52 ±0.2	2.2 ±0.2	3 ±0.15	16 ±0.2	blank
BAL-M-R0001-V01-5.0-Sn	33.7 ±0.2	52 ±0.2	2.2 ±0.2	3 ±0.15	16 ±0.2	tinned
BAL-M-R0001-V07-5.0-Sn	33.7 ±0.2	52 ±0.2	2.2 ±0.2	3 ±0.15	16 ±0.2	tinned

Connection diagram



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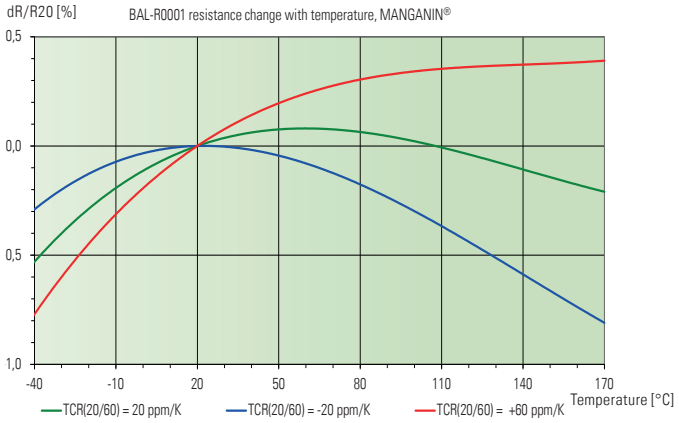
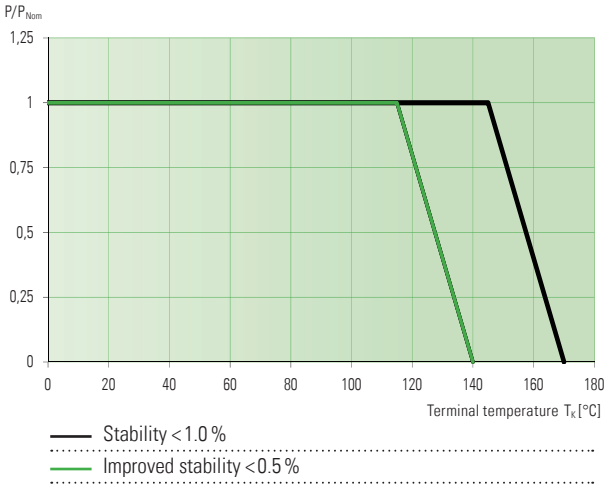
Temperature dependence of the electrical resistance



Power derating curve



Specification

Parameters	Test conditions	Specified values
Temperature Cycling	1000 cycles (-55 °C to +150 °C)	±0.5 %
Low Temperature Storage	-65 °C for 250 h	±0.1 %
Moisture Resistance	65 °C / 90 – 100 % RH	±0.1 %
Mechanical Shock	100 g, 6 ms half sine	±0.2 %
Vibration, High Frequency	10 g, 10-2000 Hz	±0.2 %
Operational Life	2000 h, T_K = 115 °C, P = 12 W	±0.5 %
High Temperature Exposure	2000 h / 140 °C	±0.5 %
Bias Humidity	+85 °C, 85 % RH, 1000 h	±0.3 %

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Maximum pulse energy respectively pulse power for permanent operation