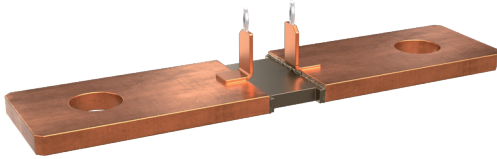




## ISA-WELD® // PRECISION RESISTORS

**BAV** // SIZE 8420 (METRIC)**Features**

- Up to 36 W permanent power
- Continuous current load up to 350 A (0.1 mOhm)
- High pulse power rating
- Max. fastening torque 10 Nm
- Further versions with various dimensions upon request
- AEC-Q200 qualification in preparation
- Shunt with laser welded pressfit sense connections

**Applications**

- Current sensor for EBM (Electronic Battery Management) in motorcars, trucks, forklifts, hybrid and electric vehicles
- Current sensing in bus bars
- Current sensing in welding equipments
- Other applications are possible

**Technical data**

Resistance values	<b>mOhm</b>	0.035 / 0.05 / 0.1 *
Tolerance	<b>%</b>	5 / 10 **
Temperature coefficient (20-60 °C)	<b>ppm/K</b>	from 50
Applicable temperature range	<b>°C</b>	-40 to +170
Power rating	<b>W</b>	36
Internal heat resistance ( $R_{thi}$ )	<b>K/W</b>	see table on page 2
Thermal EMF (30-60 °C)	<b>µV/K</b>	1 (MANGANIN®) / 1 (ZERANIN®30)
Inductance	<b>nH</b>	<3
Stability (Nominal load) deviation after 2,000 h		<0.5 % ( $T_K = 110$ °C)
$T_K$ = Terminal temperature		<1.0 % ( $T_K = 140$ °C)

\*further values on request

\*\*details on page 2

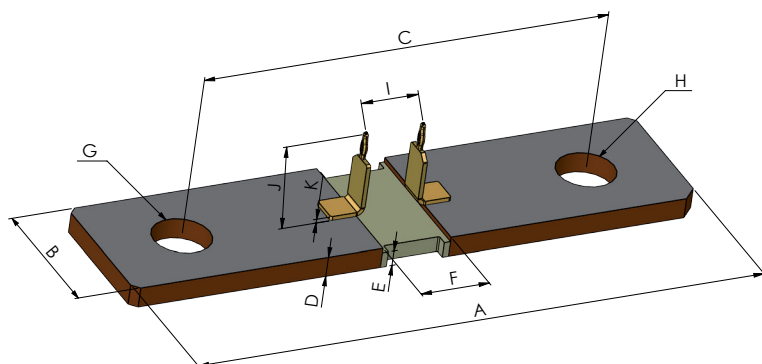
**Packaging Information**

Delivery in plastic trays

27 pcs. per tray



## Mechanical dimensions [mm]



type	A	B	C	D	E	F	G	H	I	J
BAV-Z-R000035-V01-10.0	84	20	60	3	2,3	5	Ø8.3	Ø8.3	3,6	11,75
BAV-Z-R000035-V02-10.0	84	20	60	3	2,3	5	Ø8.3	Ø8.3	3,6	9,9
BAV-Z-R000035-V03-10.0	84	20	60	3	2,3	5	Ø8.3	Ø8.3	3,6	8,05
BAV-M-R00005-V01-5.0	84	20	60	3	2,3	5,2	Ø8.3	Ø8.3	3,6	11,75
BAV-M-R00005-V02-5.0	84	20	60	3	2,3	5,2	Ø8.3	Ø8.3	3,6	9,9
BAV-M-R00005-V03-5.0	84	20	60	3	2,3	5,2	Ø8.3	Ø8.3	3,6	8,05
BAV-M-R0001-V01-5.0	84	20	60	3	2,3	10,1	Ø8.3	Ø8.3	8,5	11,75
BAV-M-R0001-V02-5.0	84	20	60	3	2,3	10,1	Ø8.3	Ø8.3	8,5	9,9
BAV-M-R0001-V03-5.0	84	20	60	3	2,3	10,1	Ø8.3	Ø8.3	8,5	8,05

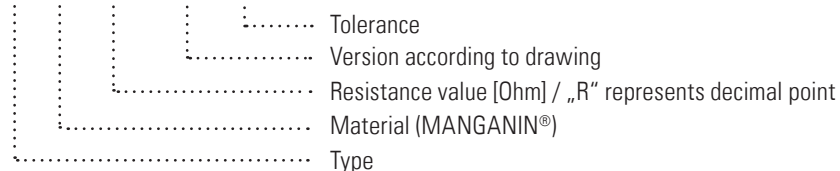
Type	Value [mΩ]	$R_{thi}$ [K/W]	TCR [ppm/K]	$P_{70^\circ C}$	$P_{140^\circ C}$	Notes
BAV-Z-R000035-V01-10.0*	0.035	1.0	125 ± 50	36 W	30 W	D-samples available
BAV-M-R00005-V01-5.0	0.05	1.5	50 ± 50	36 W	20 W	D-samples available
BAV-M-R0001-V01-5.0*	0.1	2.0	0 ± 50	36 W	15 W	D-samples available

Abbreviation type: M=MANGANIN®, Z=ZERANIN®30

\*values upon request

## Ordering code example

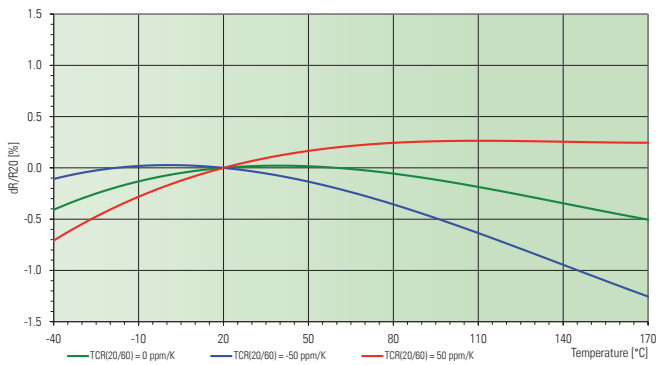
BAV - M - R00005 - V01 - 5.0



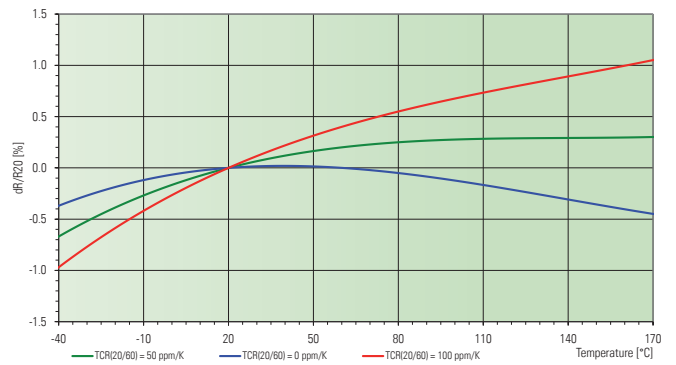


**Temperature dependence of the electrical resistance of MANGANIN® resistors**

Resistance Change with Temperature, Manganin®

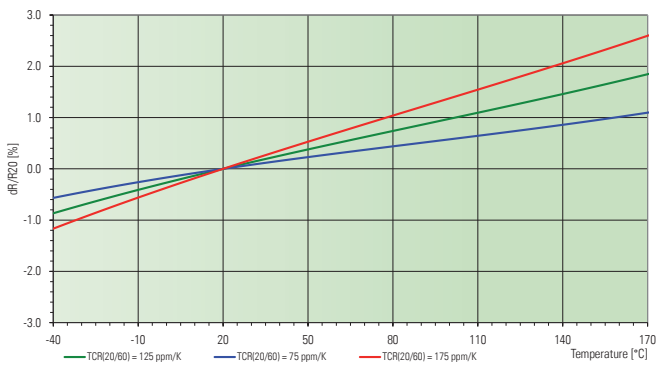


Resistance Change with Temperature, Manganin®

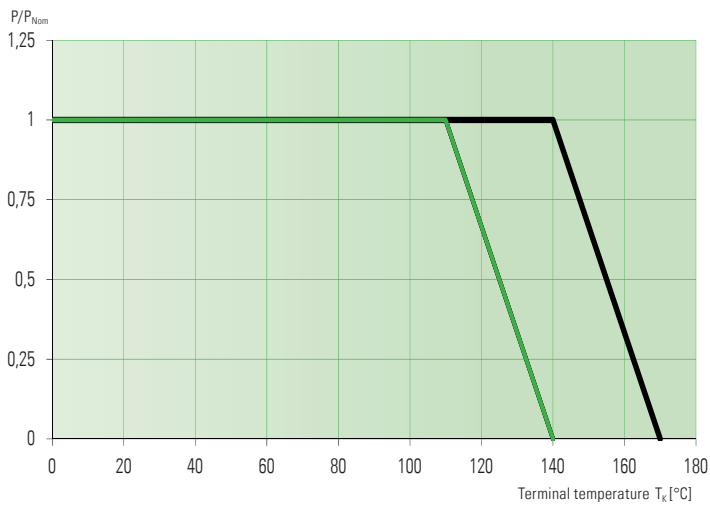


**Temperature dependence of the electrical resistance of ZERANIN® resistors**

Resistance Change with Temperature, Zeranin®



**Power derating curve BAV-M-R0001-V01-5.0**



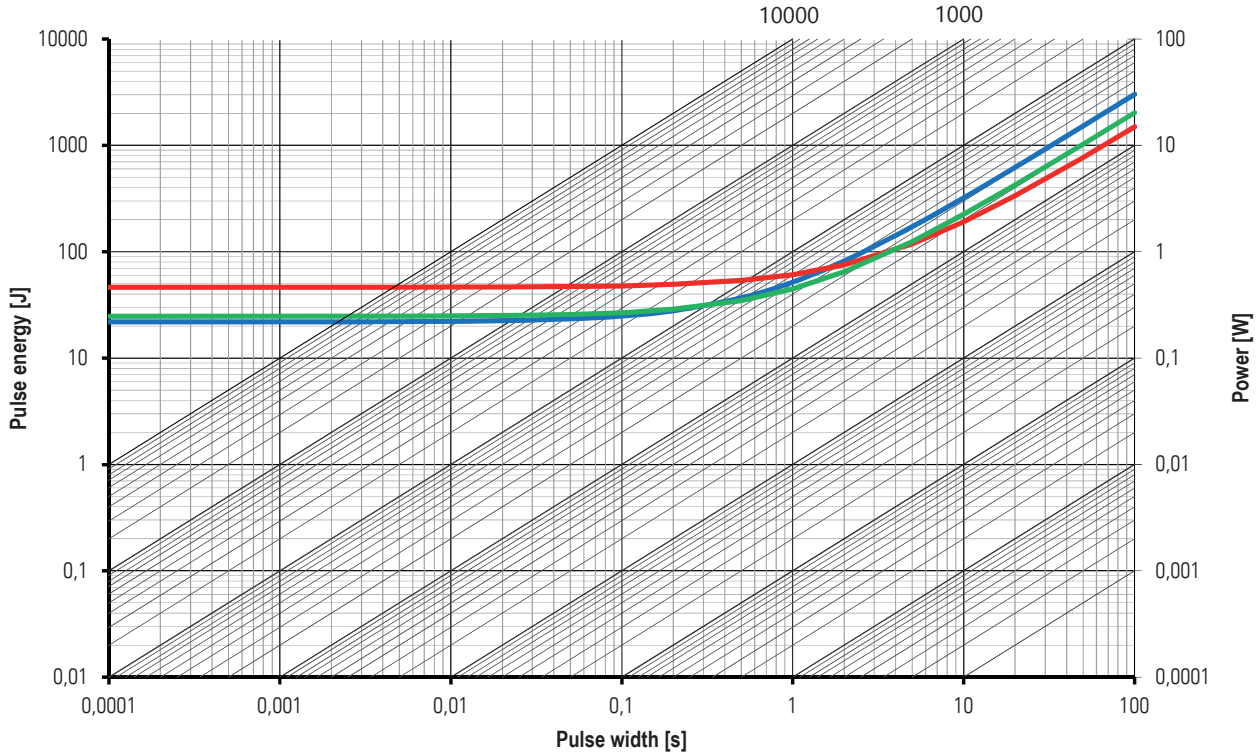
- Stability < 1.0 %
- Improved stability < 0.5 %



Maximum pulse energy respectively pulse power for permanent operation ( $T_K=140^\circ\text{C}$ )

**BAV-Z-R00035, BAV-M-R00005, BAV-M-R0001**

Maximum pulse energy / power continuous operation ( $T_K = 140^\circ\text{C}$ )



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