FINAR

SCIENCE DRIVING VALUE

ENGLISH - DATASHEET

SMART

BRAKING RESISTORS + STEEL CASED

Technology driving Quality at Low Cost!

SMART RESISTOR

International Patent Pending. A technologically advanced range of flat, ultra-slim and lightweight, shielded (completely insulated) braking resistors, heatsink mountable.

Boasting robust design, long-term reliability and great value for money. The secret to this design is in the vastly improved thermal resistance and its ability to handle strong adiabatic impulses.

Attention to every detail is at the core of the FINAR SMART Series braking resistor, they are NiCr wire-wound, mica insulated and clad in strong **ALUMINIZED STEEL** (rust free and super heat radiation) allowing for easy customization. Different to many competitors this resistor has a strong steel case enabling it to handle high temperatures up to 670°C with no risk of melting, unlike the aluminium competitors. Noise FREE. High temperature terminal cables in GVR THT, 50cm (-60°C a 250°C).

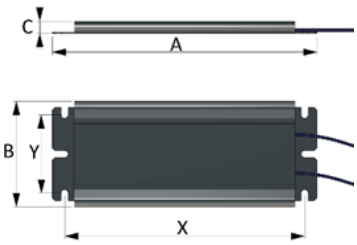
FINAR is committed to producing innovative products that are environmentally friendly made through an environmentally friendly process. The SMART Series is 80% recyclable.

POWER RANGE:
100W to 1500W

The SMART Series comes in 11 standard models, each of which is customizable to any specific resistance requirement. Put it on a heatsink and get more power!

SMART DIMENSIONS

SMART	Model	Nominal Power (W)	Dimensions					Weight (kg)
			A	B	C	X	Y	
SMART 600 XS	100	100	102	54	9	82	-	0,13
SMART 900 XS	150	150	145	54	9	125	-	0,18
SMART 600	200	200	102	74	9	82	58	0,17
SMART 900	300	300	145	74	9	125	58	0,25
SMART 1300	400	400	193	74	9	175	58	0,33
SMART 1500	500	500	267	74	9	249	58	0,46
SMART 1500 M	600	600	267	90	9	249	74	0,55
SMART 2000	700	700	337	74	9	317	58	0,58
SMART 2000 M	900	900	337	90	9	317	74	0,70
SMART 2000 L	1000	1000	337	110	9	317	94	0,86
SMART 3500 L	1500	1500	532	110	9	514	94	1,36



SMART CUSTOM

The entire SMART Series is fully and easily customizable for a continuous power range up to 1500W. That means we can supply customizable products both in size and electrical characteristics at highly competitive prices.

APPLICATIONS

- Dynamic braking + Motor control + Motion control
- Cranes & Winches
- Lifts, Elevators & Conveyors
- Safety braking
- Test loads
- Snubbers
- Current limiters
- Charge / discharge capacitor
- Heater

MADE IN ITALY

FINAR POWER S.r.l. – Via Pietro Verri, 27, 20090, Trezzano Sul Naviglio (Milano), Italy,
email: info@finarpower.com tel: +393355956453

FINAR

SCIENCE DRIVING VALUE

ENGLISH - DATASHEET

SMART

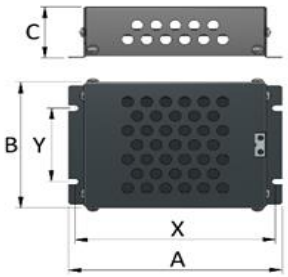
BRAKING RESISTORS + STEEL CASED

SMART AIR

SMART AIR series is mounted to allow latent airflow on all sides also providing an enclosure that aids thermal protection from accidental contact. Bipolar terminal block in technical ceramic.

SMART AIR DIMENSIONS

SMART AIR	Model	Nominal Power (W)	Dimensions					Weight (kg)
			A	B	C	X	Y	
SMART AIR 1500	500	500	267	94	52	253	40	0,74
SMART AIR 1500 M	600	600	267	110	52	253	40	0,89
SMART AIR 2000	700	700	337	94	52	323	40	0,93
SMART AIR 2000 M	900	900	337	110	52	323	40	1,13
SMART AIR 2000 L	1000	1000	337	130	52	323	75	1,39
SMART AIR 3500 L	1500	1500	532	130	52	518	75	2,20



OPERATIONAL BENEFITS

- ✓ Safe, shielded robust high electrical insulation
- ✓ High Short Circuit Protection
- ✓ Engineered for very high reliability
- ✓ Rated for repetitive duty
- ✓ Engineered for low thermal resistance – to speed up cooling
- ✓ Dissipates high dynamic loads fast;
- ✓ High Overload Capacity
- ✓ Very High Peak Load Capacity
- ✓ Very High Cyclic Load

PRACTICAL FEATURES

- High Power Density – keeps it small
- Extremely robust construction – no fragile ceramic or aluminium
- Lightweight – easy mounting
- Low inductivity for reduced EMC
- IP52 for Resistor
- Noise FREE
- Temperature stable resistor element up to 1.200°C, NiCr 80/20 – NO RUST
- Close resistance tolerance (+10% - 0%) - never lower than expected – optional different tolerance.

TECHNICAL QUALITY

- High Electrical Insulation (Overvoltage Category - Creepage) – IEC Class III – Class IV Optional
- High Humidity Protection - Pollution Degree – IEC Class III - Class IV Optional

OPTIONS

- Thermal switch (to protect against overload)
- Heatsink mounting
- Terminal cables made to measure
- Easy Mounting Bracket
- Insulation Overvoltage Protection Class IV for the Resistors
- Pollution Degree Class IV for the Resistor
- Different tolerance on resistance on demand

FINAR POWER

A TECHNOLOGY STARTUP supported by over 30 years of practical experience in resistor design and production. FINAR strives to produce the best high technology dissipative devices setting new standards for volume and power density with high reliability all at unbeatable value. **Made with Pride in Italy.**

MADE IN ITALY

FINAR POWER S.r.l. – Via Pietro Verri, 27, 20090, Trezzano Sul Naviglio (Milano), Italy,
email: info@finarpower.com tel: +393355956453

FINAR

SCIENCE DRIVING VALUE

ENGLISH - DATASHEET

SMART

BRAKING RESISTORS + STEEL CASED

SMART CHART

	Min	Max	Unit	Conditions	Symbol
AC Resistor Max Voltage		1.000	V		Vac
DC Resistor Max Voltage		1.500	V		Vdc
Insulation Resistance	100		Mohm	1000 Vdc	
Dielectric Strength / Insulation Voltage		1	mA	3000V, 60 sec , 50Hz	
Thermal Derivative	<100		ppm/°C		
Thermal Time Constant	750		s		
Case Temperature Range - Operation	-55	670	°C	Floor Mounting	Tc
Ambient Temperature Range	-55	70	°C	Storage & Operation	
Clearance Distance in Air	5		mm	IEC 60664-1 and EN 50124-1	Da
Surface Creepage Distance	5		mm	IEC 60664-1 and EN 50124-1	Ds
Tollerance Class	J			For Resistance	
Overvoltage Category	III			IEC	
Pollution Degree	III			IEC	
Protection SMART	IP52			IP of Resistor element	
Protection SMART AIR	IP52			IP of Resistor element	
Protection SMART Series	IP00			IP of Terminals	
Protection SMART AIR	IP20			IP thermal protection provided by the enclosure	

INSTALLATION ADVICE

- Units must be mounted with Terminals to the left or right or down, never facing up.
- To avoid breakage never hold the resistor only by the cables.

MARKING

The resistor is marked on the housing with high temperature label.

PRECAUTIONS

- Maximum power cannot be applied to any resistor model for more than 60 minutes without interval.
- Max normal operating Temp 450°C – Peak Temp 670°C
- Tolerance on Size +/- 2%
- Tolerance on Weight +/- 10%
- Standard tolerance on resistance +10% - 0%

DECLARATION OF CONFORMITY

Finar Power Srl hereby declares, that the SMART Series are in conformity with the provisions of:

- Council Directive 2014/30/UE (February 26, 2014) on Electromagnetic Compatibility.
- Council Directive 2014/35/UE (February 26, 2014) on Low Voltage Equipment Safety.
- RoHS Directive 2011/65/CE on Restriction of Hazardous Substances.
- REACH Regulation.

The Technical Construction File required by this Directive is maintained in the corporate headquarters of Finar Power Srl.

DISCLAIMER

All products, product specifications and data are subject to change without notice, every effort has been made to ensure that the information in this datasheet is accurate, though FINAR is not responsible for printing or clerical errors. The information in this datasheet is offered solely for your consideration and should not be taken as a warranty or representation for which FINAR assumes legal responsibility. All information regarding the suitability, workability and applicability of our products, all technical advice and other information are provided to the best of our knowledge and belief but shall not discharge the buyer from their own examinations and tests. The customer bears all responsibility for the use and application and improper use.

CALL US FOR ANY TECHNICAL QUERIES

MADE IN ITALY

FINAR POWER S.r.l. – Via Pietro Verri, 27, 20090, Trezzano Sul Naviglio (Milano), Italy,
email: info@finarpower.com tel: +393355956453