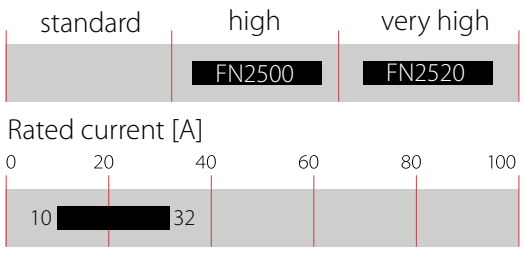
Low Profile - High performance, EMC/RFI filter

- Excellent EMC filter for robotics, datacenters and a variety of other applications
- Available terminals: Fast-on, wire leads, bolt and clamps
- Voltage rating up to 277 VAC / 400 VDC
- Fits within 1 height unit (HU) of a 19" rack application
- 50 °C operating temperature

Performance indicators



Approvals & Compliances

Certifications FN2520 pending

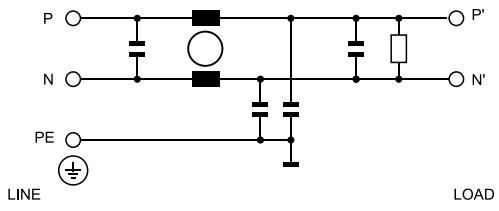
Features and Benefits

- FN2500 / FN2520 series fits perfectly within 1HU height for rack mount
- The filters are built to perform perfectly in datacenter and audio video equipment
- The shape allows convenient and space-saving installation
- Fulfills the requirements in IEC/EN 62040-1 - Uninterruptible power systems (UPS)
- Fulfills the requirements in IEC 62368-1 - Audio/ Video, Information and Communication Technology Equipment
- Fulfills the requirements in IEC/EN 60335-1 - Household and similar appliances

Typical Applications

- Datacenter (at 400 VDC)
- Building technology with DC power distribution
- Robotics, collaborative robots, autonomous machines
- Audio and video equipment
- UPS - Uninterruptible power supplies

Typical electrical schematic



Technical Specifications

Maximum continuous operating voltage	277 VAC / 400 VDC (CQC: 250 VAC / 250 VDC)
Rated currents	10 to 32 A @ 50°C
Overload capability	1.5 x rated current for 1 minute once per hour
Operating frequency	DC to 60 Hz
High potential test voltage	P(DC+) –> N(DC-) 1500 VDC for 2 sec* P(DC+)/N(DC-) –> PE 2500 VDC for 2 sec*
Overvoltage category	II acc. IEC 60664-1
Pollution degree	2 acc. IEC 60664-1
Surge withstand	2 kV Ph-Ph / 4 kV Ph-PE (Level 4)
Temperature range (operation and storage)	FN2500: -40°C to +100°C (with derating >50°C) FN2520: -40°C to +85°C (with derating >50°C)
Climatic category	FN2500: 40/100/21 acc. IEC60068-1 FN2520: 40/085/21 acc. IEC60068-1 FN2520: 40/085/21 acc. IEC60068-1
Cooling	Natural cooling AN
Altitude	Derating above 2000 m
Protection category	IP00 / IP20 for -103 terminals
Flammability corresponding to	Plastic material: UL 94 V0 Laces for -07 version: UL 94 VW1
Vibration and shock	3M12 acc. IEC 60721-3-3
Certified to	UL/IEC 60939-3, CSA 22.2 No. 8-13, GB/T 15287
MTBF (Mil-HB-217F)	>300,000 h @ 50°C/277 V

* High potential test voltage: Repetition with max. 80% of specified values

Filter Selection Table

Filter	Rated current	Leakage current*	Power loss	Inductance**	Capacitance**			Resistance**	Connections***				Weight max****
	@ 50°C (@ 40°C)	@ 277 VAC/50 Hz	@ 25°C	L1	Cx1	Cx2	Cy1	R	line side/load side				
		(@ 120 VAC/60 Hz)											
	[A]	[mA]	[W]	[mH]	[µF]	[µF]	[nF]	[kΩ]					[kg]
Single-stage													
FN2500-10-yy-C13	10 (11)	0.87 (0.45)	5.4	8.3	1	0.47	10	680	-05	-07	-08	-103	0.3
FN2500-15-yy-C13	15 (17)	0.87 (0.45)	6.4	4.0	1	0.47	10	680	-05	-07	-08	-103	0.3
FN2500-20-yy-C13	20 (22)	0.87 (0.45)	6.2	2.4	1	0.47	10	680	-05	-07	-08	-103	0.3
FN2500-25-yy-C13	25 (27)	0.87 (0.45)	8.0	1.5	1	0.47	10	680	n.a	-07	-08	-103	0.3
FN2500-32-yy-C13	32 (35)	0.87 (0.45)	11.6	1.5	1	0.47	10	680	n.a	-07	-08	-103	0.4

* Maximum leakage current under normal operating conditions. Note: if the neutral line is interrupted, worst case leakage current could reach twice this level.
** Tolerances apply: Inductance: -30/+50%, Capacitance: ±20%, Resistance: ±10%.
*** Standard parts have same input and output connections. For combinations, please contact your sales representative.
**** Weight depending on choice of connectors.

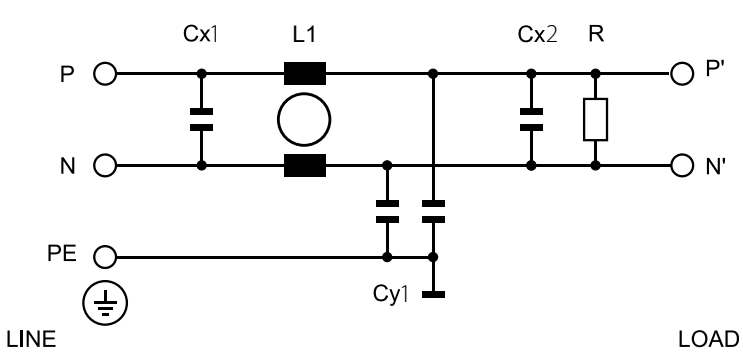
Product selector

FN2500-xx-yy-C13

yy – Line / load terminal types
05: fast-on 6.3 x 0.8 mm (up to 20 A only)
07: wire leads
08: M4 screw
103: push-in terminal

xx – Rated current
10-32: 10 A – 32 A

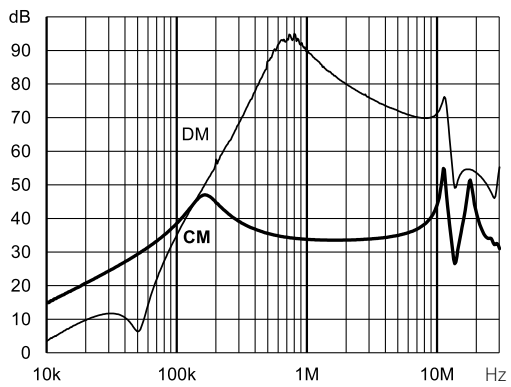
Typical electrical schematic FN2500



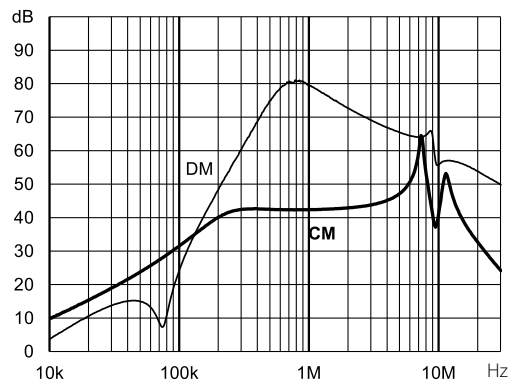
Typical Filter Attenuation

Per CISPR 17: symmetrical 50 Ω/50 Ω -> Differential Mode (DM); asymmetrical 50 Ω/50 Ω -> Common Mode (CM)

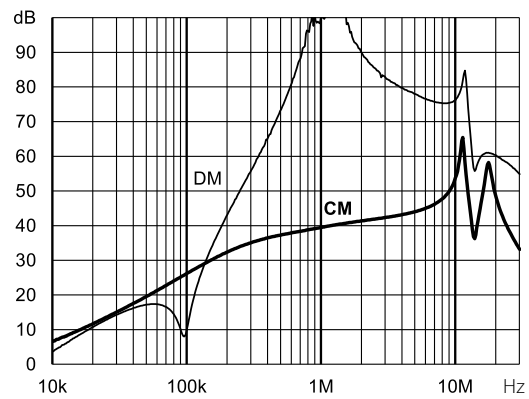
FN2500 - Single-stage filter



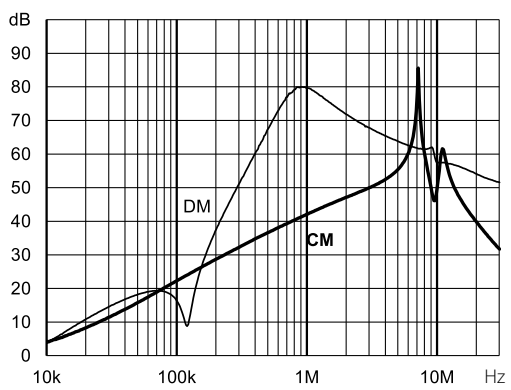
FN2500-10-yy-C13



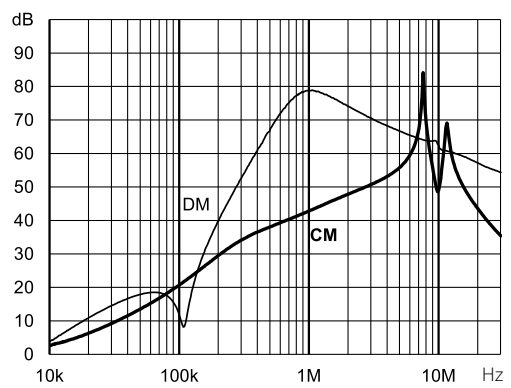
FN2500-15-yy-C13



FN2500-20-yy-C13



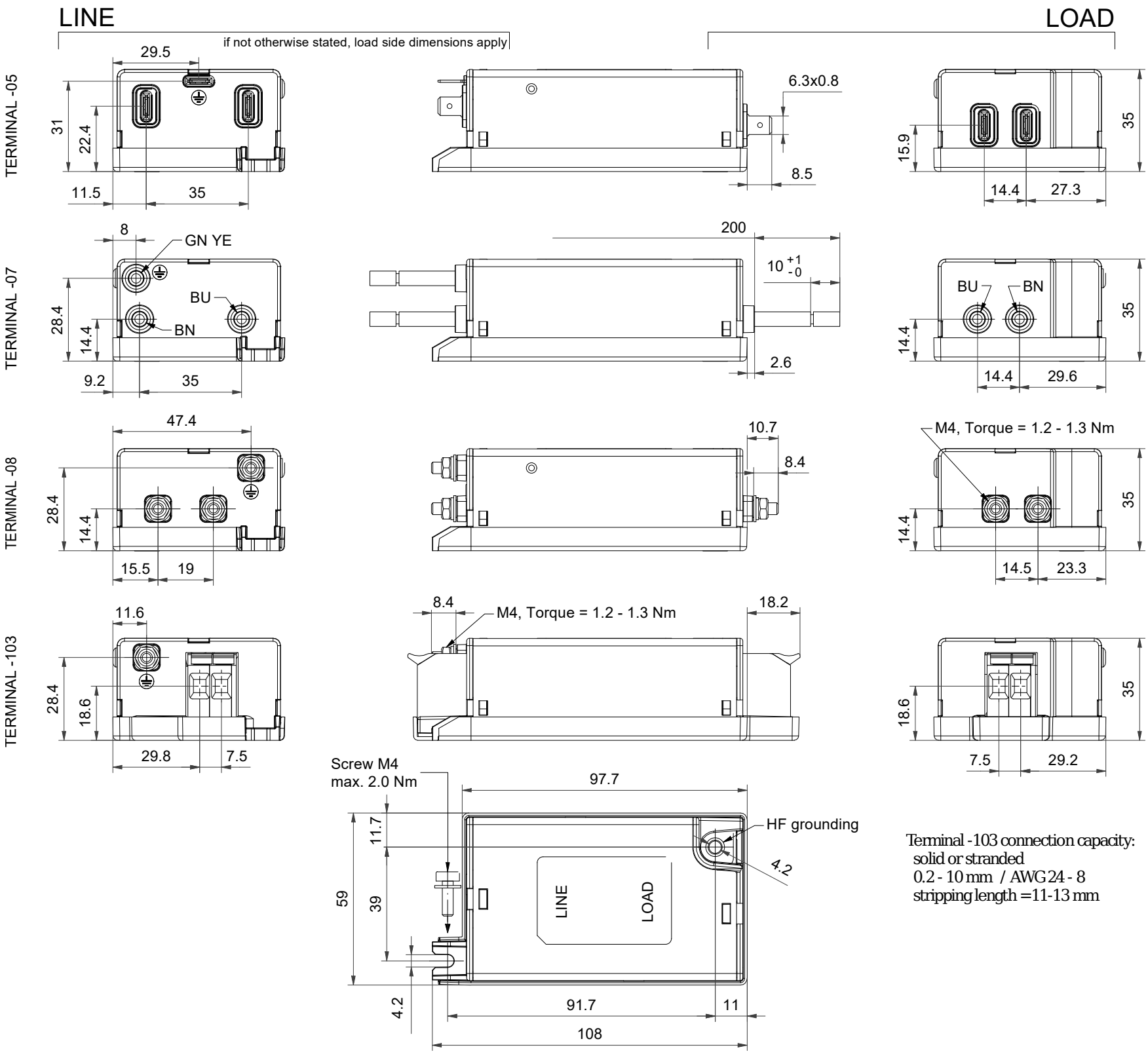
FN2500-25-yy-C13



FN2500-32-yy-C13

Dimensions FN2500 - 10 A To 25 A - Single-stage Filter

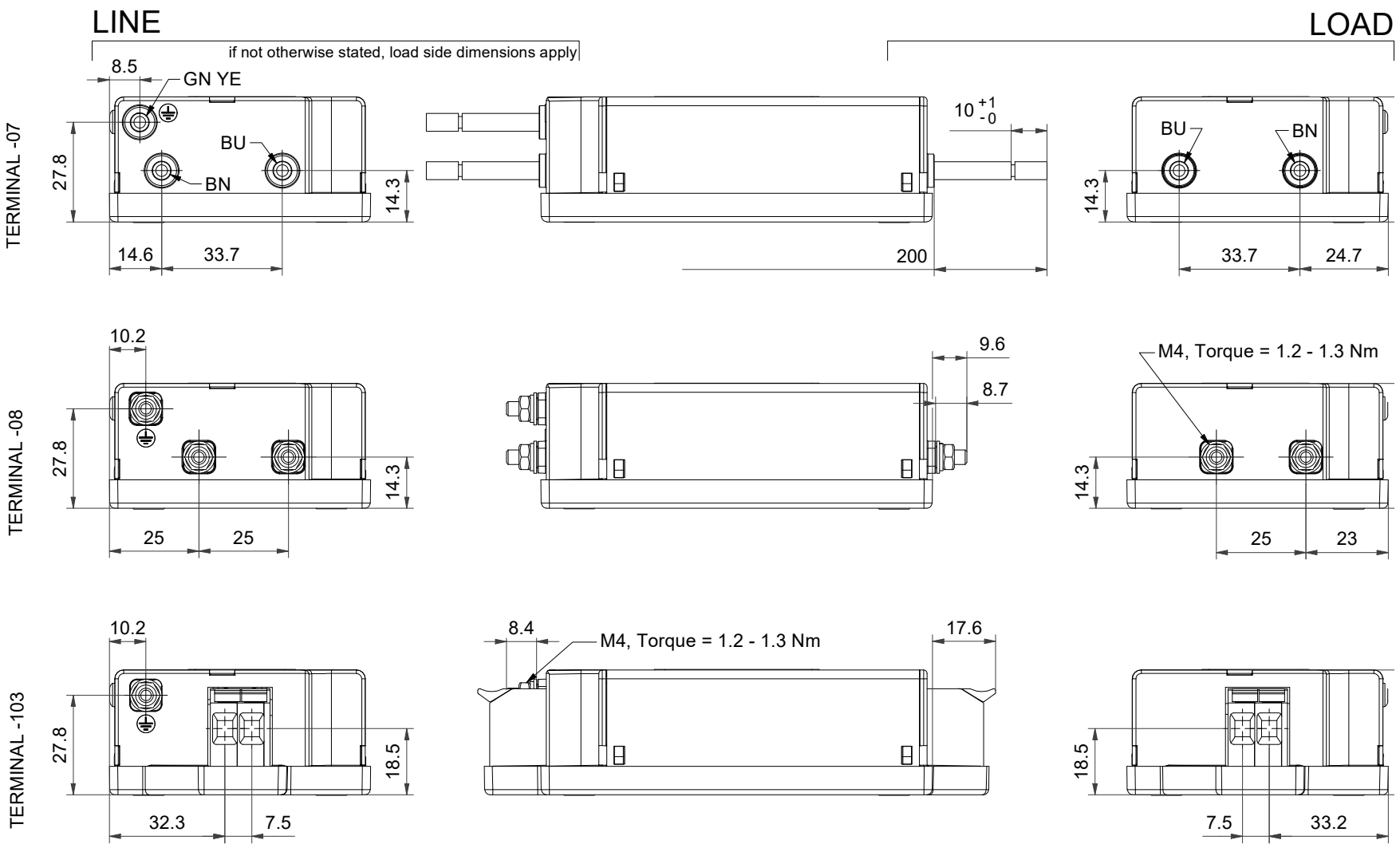
For dimensions [mm] without tolerances: ISO2768-cL/EN22768-cL applies

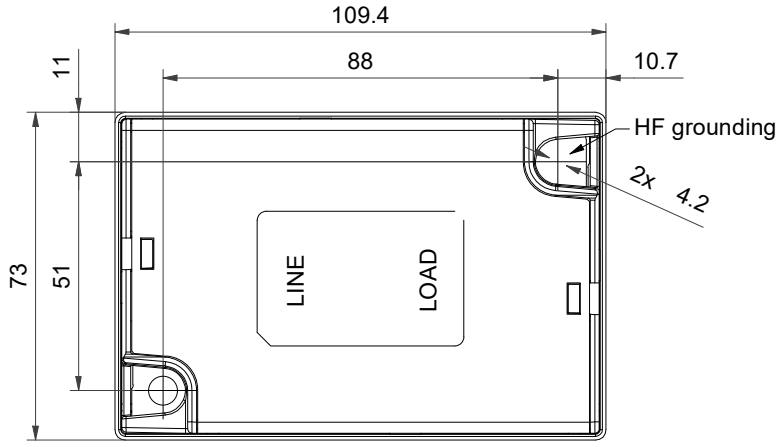


Terminal -103 connection capacity:
solid or stranded
0.2 - 10 mm / AWG 24 - 8
stripping length =11-13 mm

Dimensions FN2500 - 32 A - Single-stage Filter

For dimensions [mm] without tolerances: ISO2768-cL/EN22768-cL applies





Terminal -103 connection capacity:
solid or stranded
0.2 - 10 mm / AWG 24 - 8
stripping length = 11-13 mm

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