

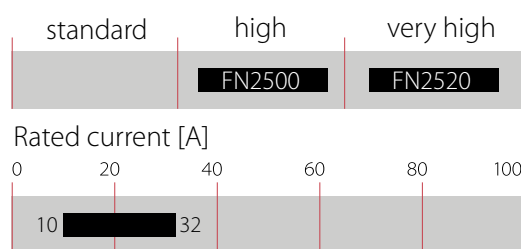
# Low Profile - High performance, EMC/EMI filter



- 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

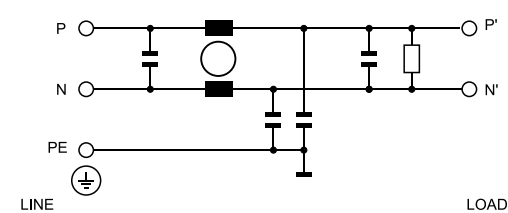
- Datacenter (at 400 VDC)
- Building technology with DC power distribution
- Robotics, collaborative robots, autonomous machines
- Audio and video equipment
- UPS - Uninterruptible power supplies

## Technical Specifications

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

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

### Typical electrical schematic



### Filter Selection Table

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

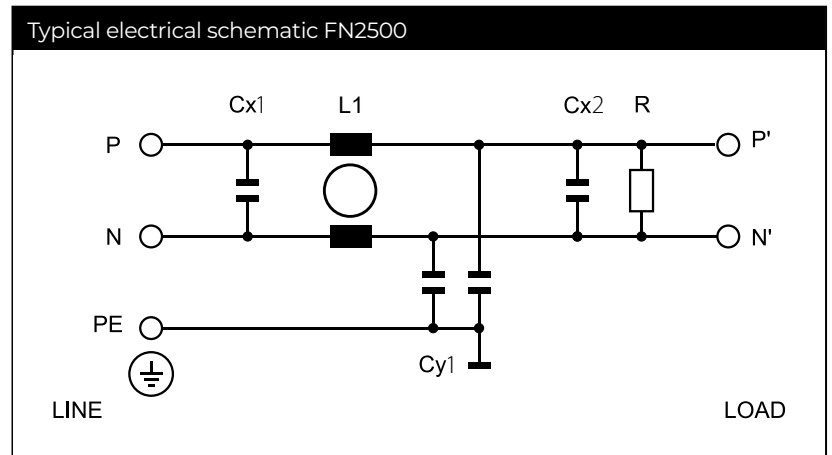
FN2500-xx-yy-C13

**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**

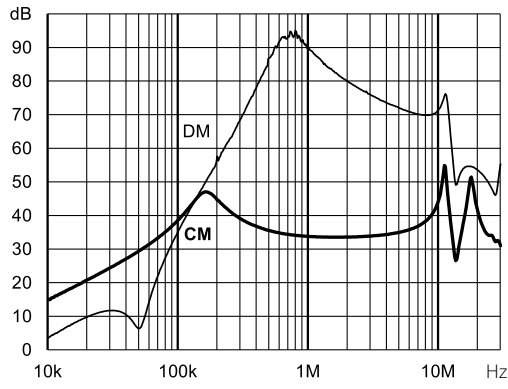
- 10-32: 10 A – 32 A



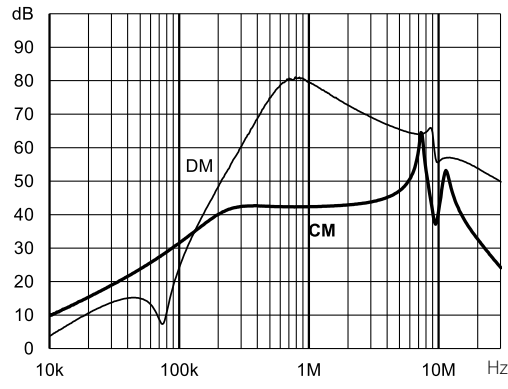
## Typical Filter Attenuation

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

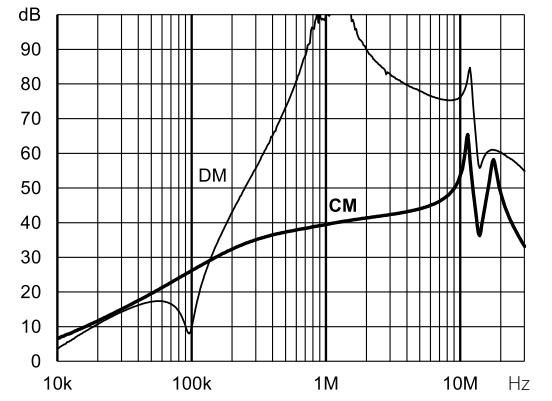
FN2500 - Single-stage filter



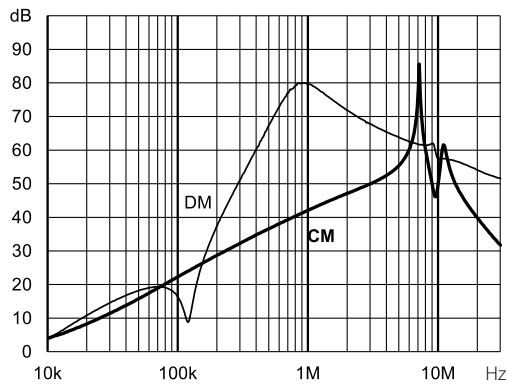
FN2500-10-yy-C13



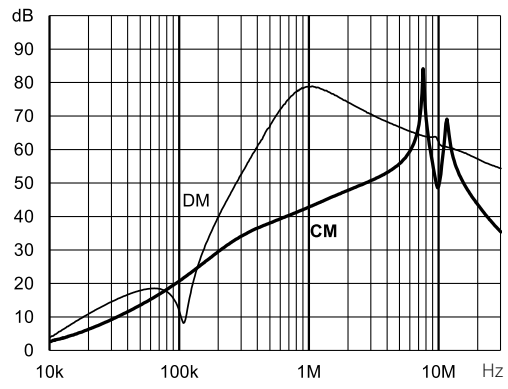
FN2500-15-yy-C13



FN2500-20-yy-C13



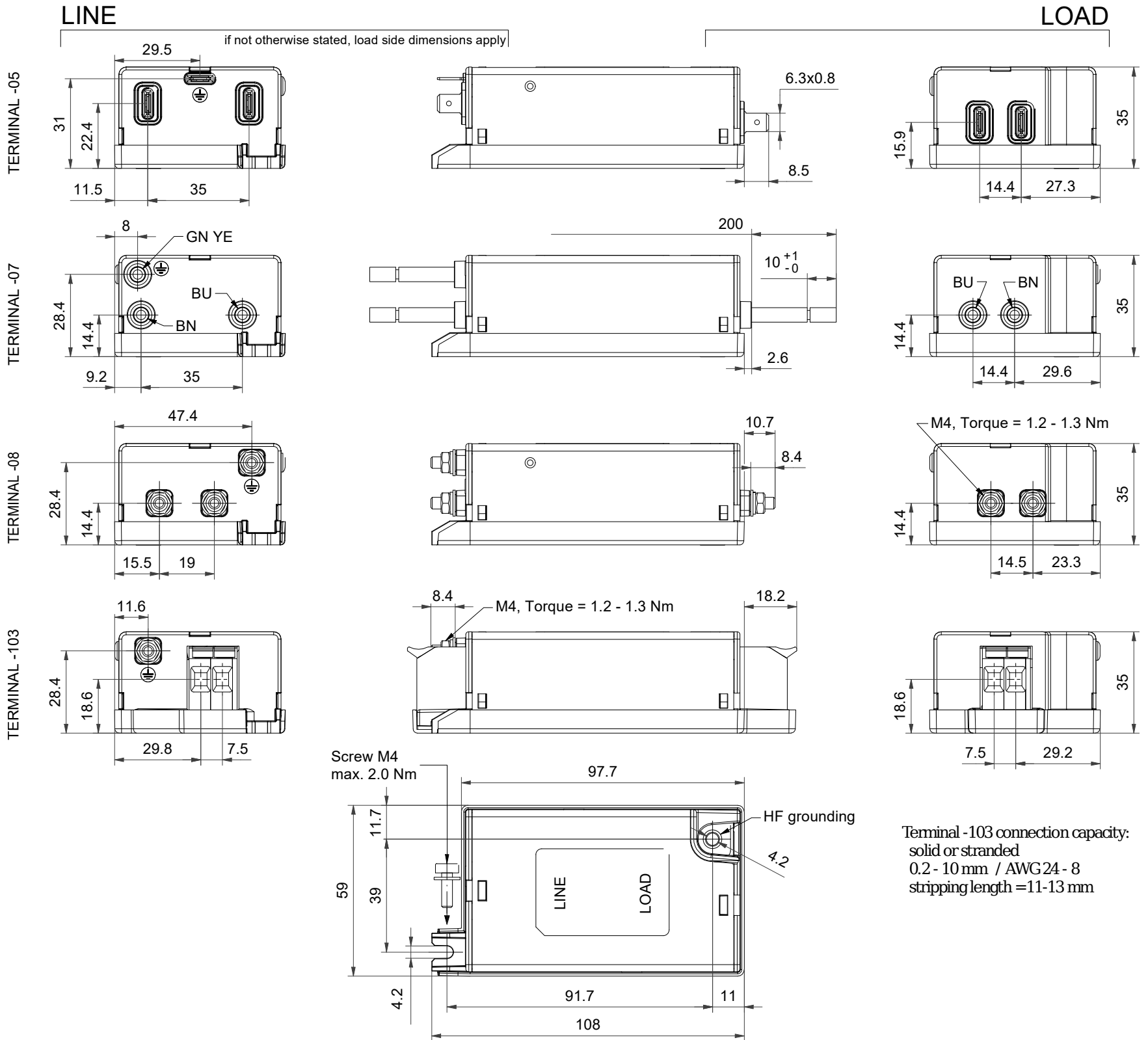
FN2500-25-yy-C13



FN2500-32-yy-C13

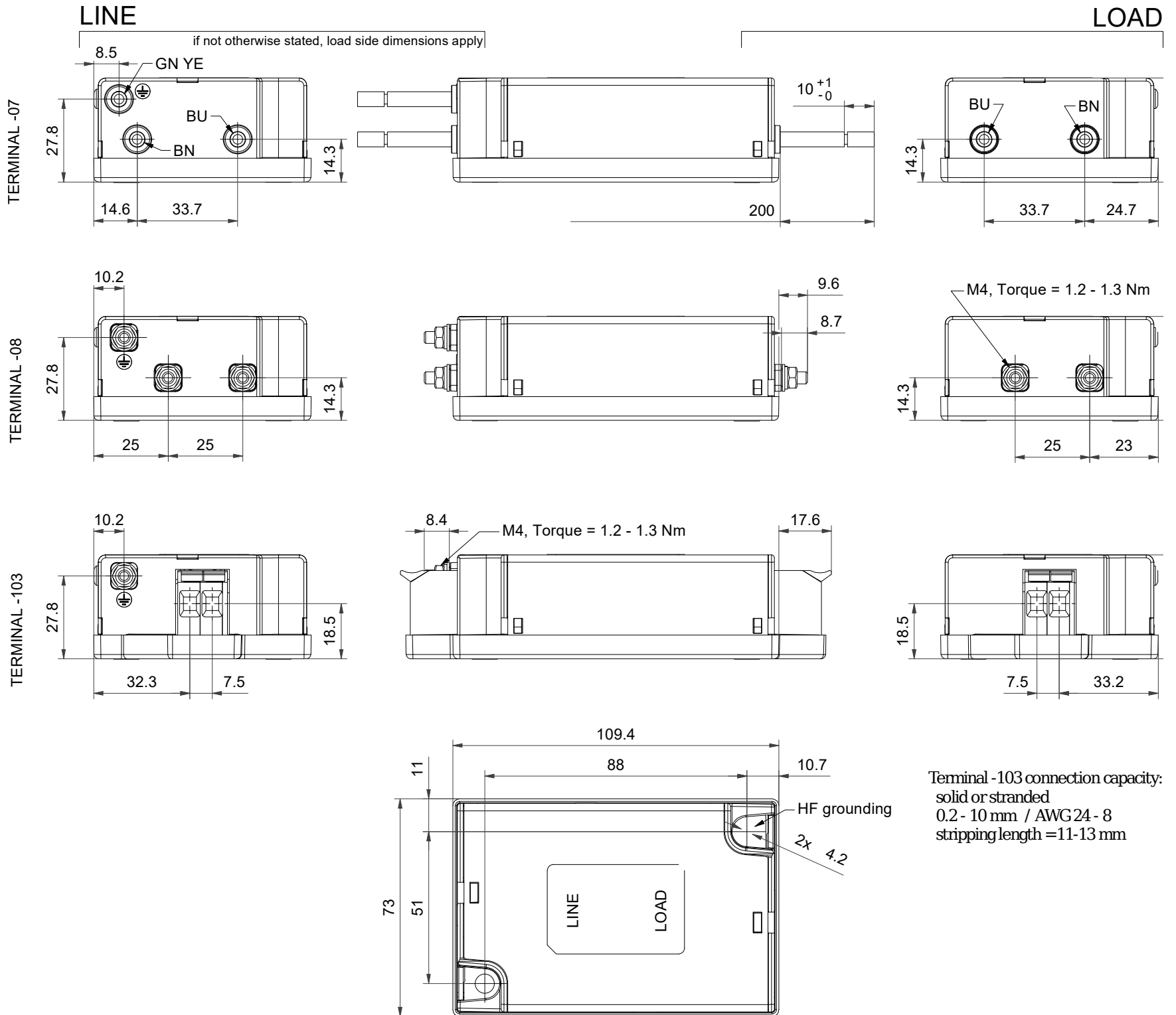
## Dimensions FN2500 - 10 A To 25 A - Single-stage Filter

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



### Dimensions FN2500 - 32 A - Single-stage Filter

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



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