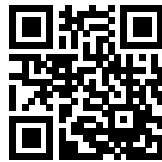


Filter for low leakage current application



- Low leakage EMC filter with high performance options
- Improvement of system reliability
- Tight packaged EMC filter
- Industry standard form factor



Performance indicators

Attenuation performance



Rated current [A]



Technical Specifications

Operating voltage	530 / 305 VAC
Operating frequency	0 - 60 Hz
Rated currents	10 - 30 A @ 50°C
Overload capability	1.5 x rated current for 1 minute once per hour
High potential test voltage	2.28 kV DC 60s, phase to phase 2.5 kV AC 60s, phase to protected earth Repetition with max. 80% of the HV test voltage
Temperature range (operation and storage)	-40°C to +100°C
Climatic category	40/100/21 (acc. IEC 60068-1)
Overvoltage category	III (acc. IEC 60664-1)
Pollution degree	PD2 (acc. IEC60664-1)
Protection category	IP 00 (acc. IEC 60529-1)
Surge withstand	2 kV, phase to phase (acc. to IEC 61000-4-5) 4 kV, phase to protected earth (acc. to IEC 61000-4-5)
Altitude	2000 m, current and voltage derating above
Design corresponding to	UL/IEC 60939-3 CSA C22.2 No. 8-13
Flammability according to	UL 94 V0
Vibration and shock	According IEC60721-3-3, Level 3M4 Shock: 20G, 11ms once each axial
MTBF	> 300'000 h

Approvals & Compliances



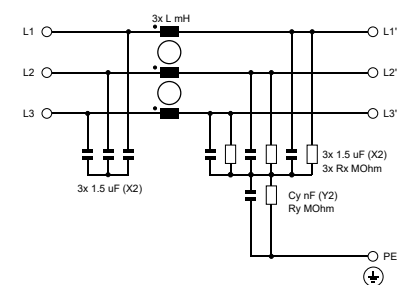
Features and Benefits

- A plastic housing combined with a metal ground plate achieve the lowest possible product weight without compromising EMC behaviour
- The embedded terminals from Schaffner guarantee user-friendly handling and reliable, long-lasting electrical connection
- Fixed, hinged terminal covers contribute to overall safety by providing protection against unintended contact with live conductors. They are included in the standard scope of delivery without any extra cost
- Very low leakage current values make the filters suitable for grids with very tough requirements and for applications which set value on safety and reliability
- FN3040 feature an ecologically conscious construction without the use of potting compound or banned substances (RoHS). Used raw materials can be easily separated at the end of the product life time for proper and environmentally safe disposal

Typical Applications

- Electrical and electronic equipment
- Test and measurement devices
- Medical devices & Industrial automation
- Small machines

Typical electrical schematic



Filter Selection Table

Filter	Core*	Rated current	Leakage current**	Inductance	Capacitance	Resistance		Weight	Input/Output
		@ 50°C	530 V/50 Hz	L @ 1 kHz / 50 mV	C_y @ 1 kHz / 1 V	R_x	R_y		connections
		[A]	[mA]	[mH]	[nF]	[MΩ]	[MΩ]	[kg]	
Standard Housing									
FN3040-10-61-C19-R65	MnZn	10	0.19	3.70	100	1.5	1.0	0.45	-61
FN3040-10-61-C20-R65	MnZn	10	0.28	3.70	150	1.5	1.0	0.45	-61
FN3040-10-61-C21-R65	MnZn	10	0.40	3.70	220	1.5	1.0	0.45	-61
FN3040-20-61-C19-R65	MnZn	20	0.19	1.00	100	1.5	1.0	0.45	-61
FN3040-20-61-C20-R65	MnZn	20	0.28	1.00	150	1.5	1.0	0.45	-61
FN3040-20-61-C21-R65	MnZn	20	0.40	1.00	220	1.5	1.0	0.45	-61
FN3040-30-61-C19-R65	MnZn	30	0.19	0.50	100	1.5	1.0	0.45	-61
FN3040-30-61-C20-R65	MnZn	30	0.28	0.50	150	1.5	1.0	0.45	-61
FN3040-30-61-C21-R65	MnZn	30	0.40	0.50	220	1.5	1.0	0.45	-61
FN3041-10-61-C21-R65	Nano	10	0.40	12.90	220	1.5	1.0	0.43	-61
FN3041-20-61-C21-R65	Nano	20	0.40	3.60	220	1.5	1.0	0.43	-61
FN3041-30-61-C21-R65	Nano	30	0.40	1.75	220	1.5	1.0	0.43	-61
DIN Rail Housing									
FN3042-10-61-C19-R65	MnZn	10	0.19	3.70	100	1.5	1.0	0.50	-61
FN3042-10-61-C20-R65	MnZn	10	0.28	3.70	150	1.5	1.0	0.50	-61
FN3042-10-61-C21-R65	MnZn	10	0.40	3.70	220	1.5	1.0	0.50	-61
FN3042-20-61-C19-R65	MnZn	20	0.19	1.00	100	1.5	1.0	0.50	-61
FN3042-20-61-C20-R65	MnZn	20	0.28	1.00	150	1.5	1.0	0.50	-61
FN3042-20-61-C21-R65	MnZn	20	0.40	1.00	220	1.5	1.0	0.50	-61
FN3042-30-61-C19-R65	MnZn	30	0.19	0.50	100	1.5	1.0	0.50	-61
FN3042-30-61-C20-R65	MnZn	30	0.28	0.50	150	1.5	1.0	0.50	-61
FN3042-30-61-C21-R65	MnZn	30	0.40	0.50	220	1.5	1.0	0.50	-61
FN3043-10-61-C21-R65	Nano	10	0.40	12.90	220	1.5	1.0	0.45	-61
FN3043-20-61-C21-R65	Nano	20	0.40	3.60	220	1.5	1.0	0.45	-61
FN3043-30-61-C21-R65	Nano	30	0.40	1.75	220	1.5	1.0	0.45	-61

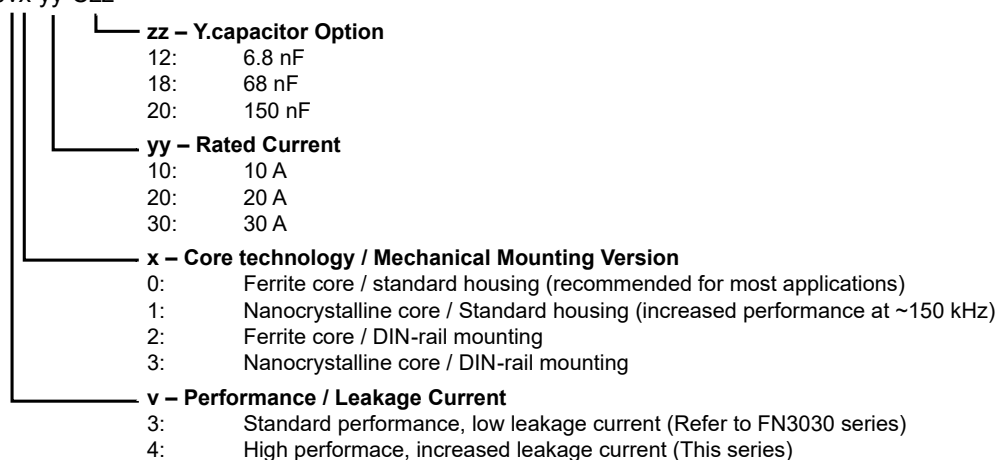
Inductance tolerance: +50%, -30%; Capacitance tolerance: ±20%; Resistance tolerance: ±15% @ 25°C

* Core material: MnZn: Ferrite core material / nano: Nanocrystalline core material

** Maximum leakage current under normal operating conditions (acc. to IEC60939-3).

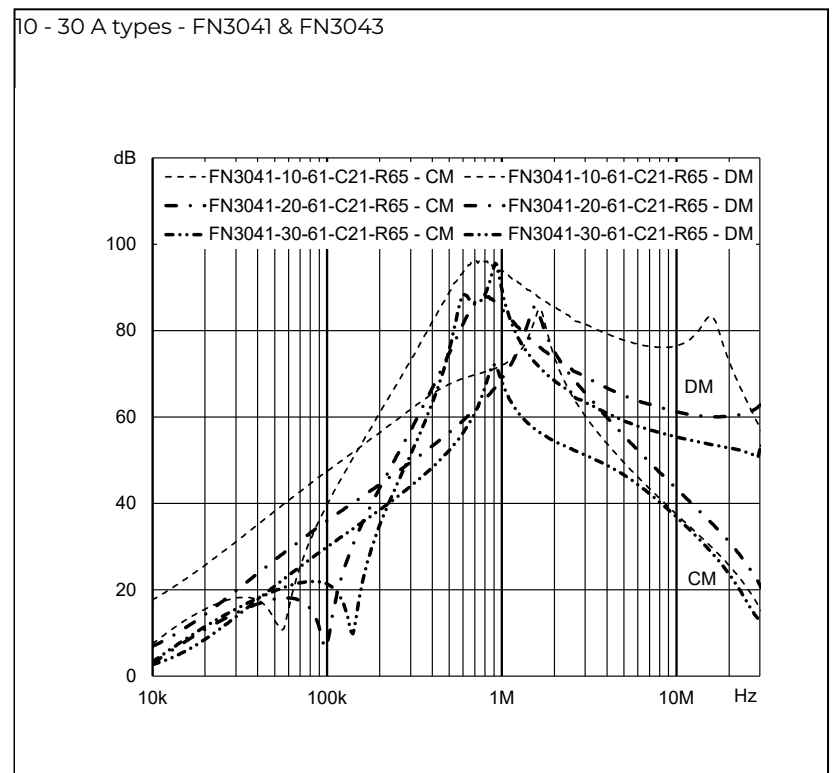
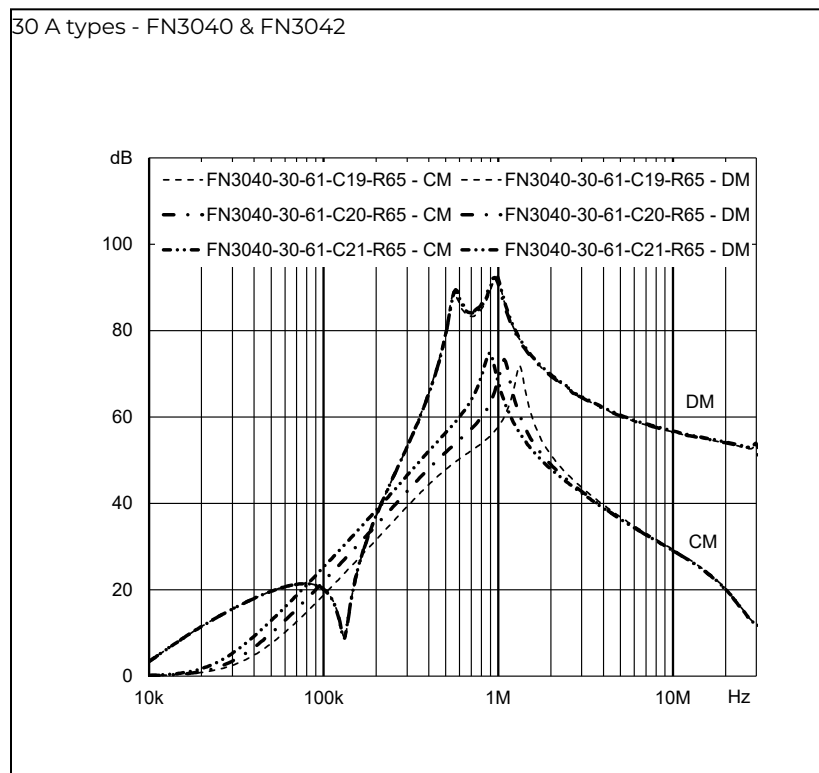
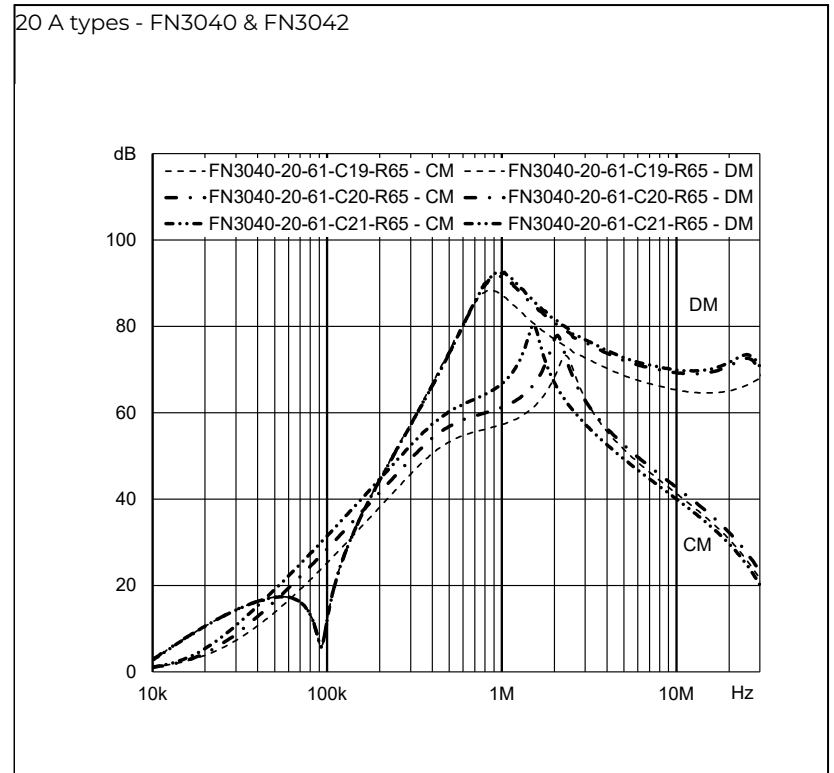
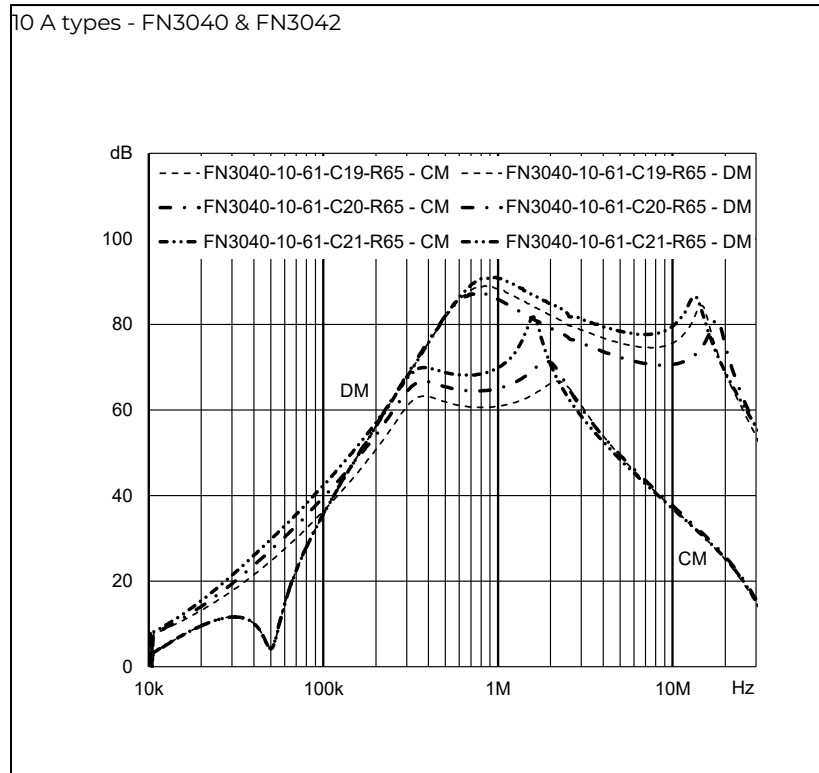
Product Selector

FN30vx-yy-Czz



Typical Filter Attenuation

Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym



Filter Input/Output Connector Cross Sections

-61 (10 A)



max. 11 mm/min. Ø 4.3 mm

1.2 - 1.4 Nm

-61 (20 A)



max. 11 mm/min. Ø 4.3 mm

1.2 - 1.4 Nm

-61 (30 A)



max. 11 mm/min. Ø 4.3 mm

1.2 - 1.4 Nm

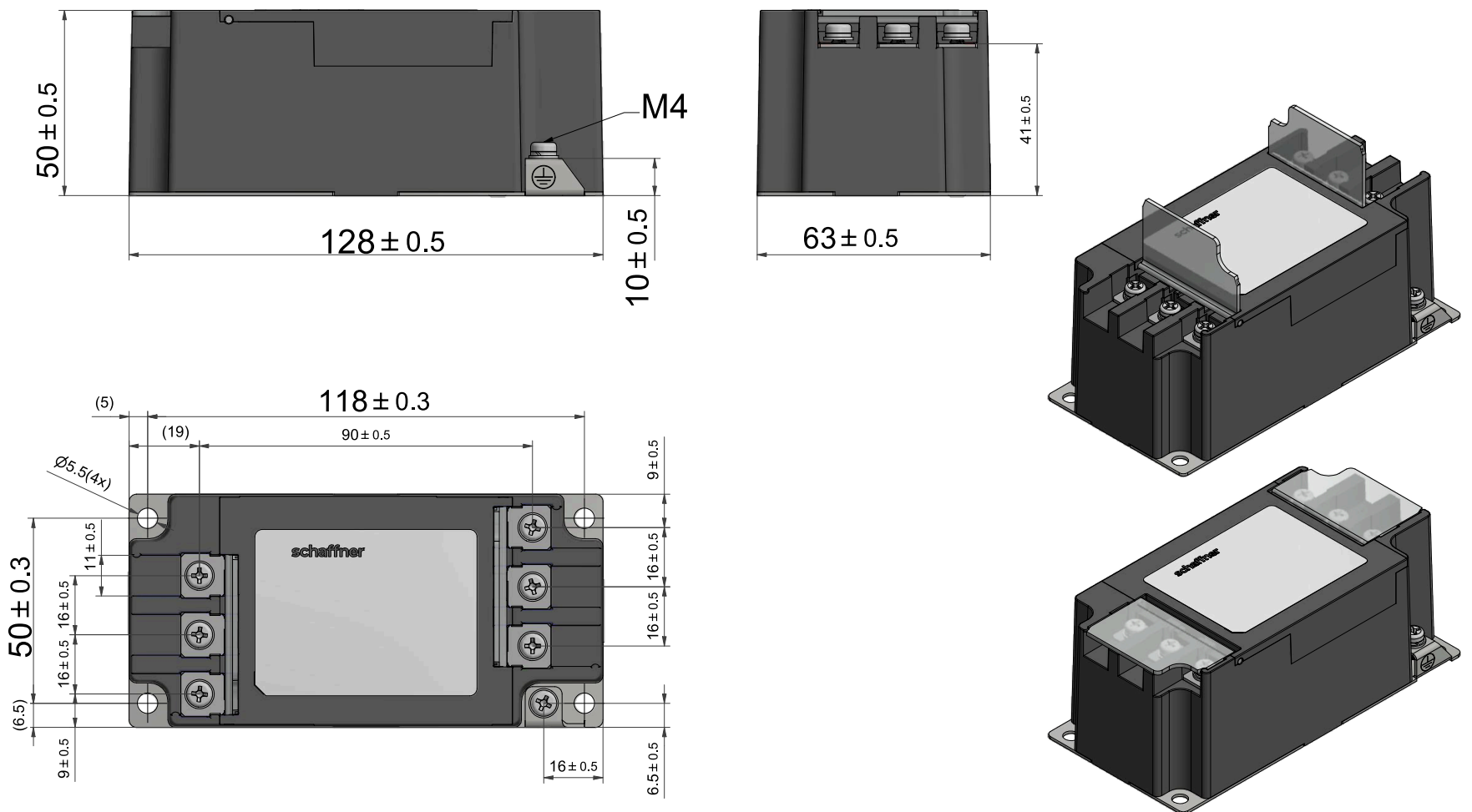
Ring/fork lug (W/d)*

Recommended torque

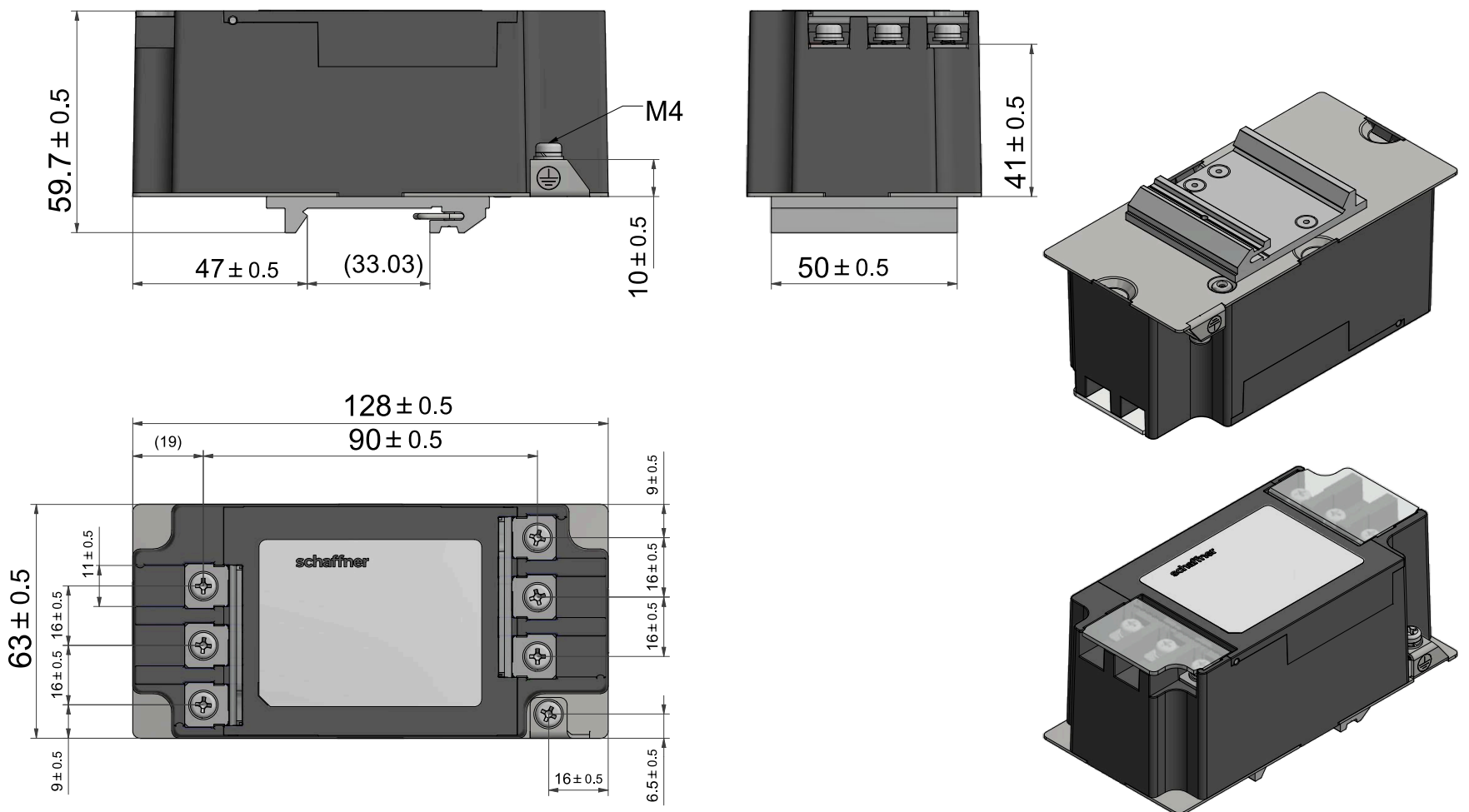
* Schaffner recommends the use of insulated and UL-recognized ring lugs or fork lugs of the appropriate size.

Mechanical Data

Chassis Mounting FN3040 & FN3041



DIN Rail Mounting FN3042 & FN3043



All dimensions in mm. For dimensions without stated tolerances: ISO 2768-m/EN 22768-m
Recommended torque PE: 1.2 - 1.4 Nm

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