

Designed for Automation

Tailored for Multi-Line Weighing



Compact Size

The small width of 25 mm enables to build arrays with a minimal pitch to allow parallel multi-line weighing on small space to achieve highest throughput in production and research.



All Inclusive

Fieldbus connectivity, power over Ethernet, calibration weight and electronics. All parts are incorporated in the rugged stainless steel housing with optional IP65 protection for cleaning.



Overload Protection

The weigh module benefits from comprehensive overload protection. This protects the weigh module in the event of malfunction of handling devices or mistakes during installation.



Functionality Test

The module can be verified at any time with the internal calibration weight. The adapters on the weighing pan don't have to be removed if they weigh less than 50% of full load.



WMF

High-Precision Weigh Modules

Industrial automation applications require multiple lines connected to a single control system, which makes it necessary to have sensors that can support that requirement.

WMF weigh modules are designed with that in mind and are tailored for multi-line automation systems. Fully integrated Industrial Ethernet interface (EtherNet/IP and PROFINET IO RT) allows integration into a real-time automation network.

WMF Model Specific Data

Parameter		WMF204C	WMF303C
Maximum capacity	nominal	220 g	320 g
Readability	nominal	0.1 mg	1 mg

Measurement properties (properties apply to environmental conditions)

Specification temperatures		10 ... 30 °C	
Specification humidity		20 ... 80 %rH	

Limit values

Repeatability (at nominal load)	standard deviation	0.13 mg	1 mg
Linearity deviation	standard deviation	0.4 mg	2 mg
Eccentricity deviation (test load) OIML R76	standard deviation	1 mg	2 mg
Sensitivity offset (test load) ¹⁾		0.8 mg (150 g)	2.0 mg (300g)
Sensitivity temperature drift		0.00015 %/°C x Rnt	0.00015 %/°C x Rnt
Sensitivity stability		0.00025 %/a x Rnt	0.00025 %/a x Rnt

Typical values

Repeatability	typical	0.08 mg	0.4 mg
Eccentric load deviation (test load)	typical	0.4 mg (200 g)	1 mg (300g)
Sensitivity offset ¹⁾ (test load)	typical	0.5 mg (150 g)	0.8 mg (300g)
Minimum weight (according to USP)		160 mg	800 mg
Minimum weight (@ U=1%, 2 sd)		16 mg	80 mg

Dynamics

Signal processing output rate	max.	92/s	92/s
Settling time ²⁾ (@ 0.1 % tolerance of applied load)	typical	< 0.4 s	< 0.4 s

Rnt = net weight (of sample); sd = standard deviation; a = year (annum); ¹⁾ Applies only after adjustment at nominal capacity with an OIML E2 weight;
²⁾ Under optimal environmental conditions

WMF General Specifications

Power supply

Power supply voltage	Power over Ethernet (PoE); Mode A (end span); Class 1 PD (under 3.84 Watt); According IEEE Std 802.3af
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Electrical connection

Weigh module connector	M12, 4 pins, D-coded, male
Interfaces	EtherNet TCP/IP - Adapter; PROFINET IO RT - Device, RT_CLASS_1, Conformance Class CC-B

Air connection

Tube diameter external	4 mm (5/32 inch)
Tube diameter internal	2.5 mm (1/10 inch)
Air pressure for wash-down	0.6 ± 0.1 bar
Air flow for cooling function	15 l / min +/- 2 l / min

IP protection

When weighing	IP44
When cleaning, wash down (seal activated with 0.6 bar air pressure)	IP65
Typical service life of seals (normal environmental conditions)	2 years

Allowable ambient conditions

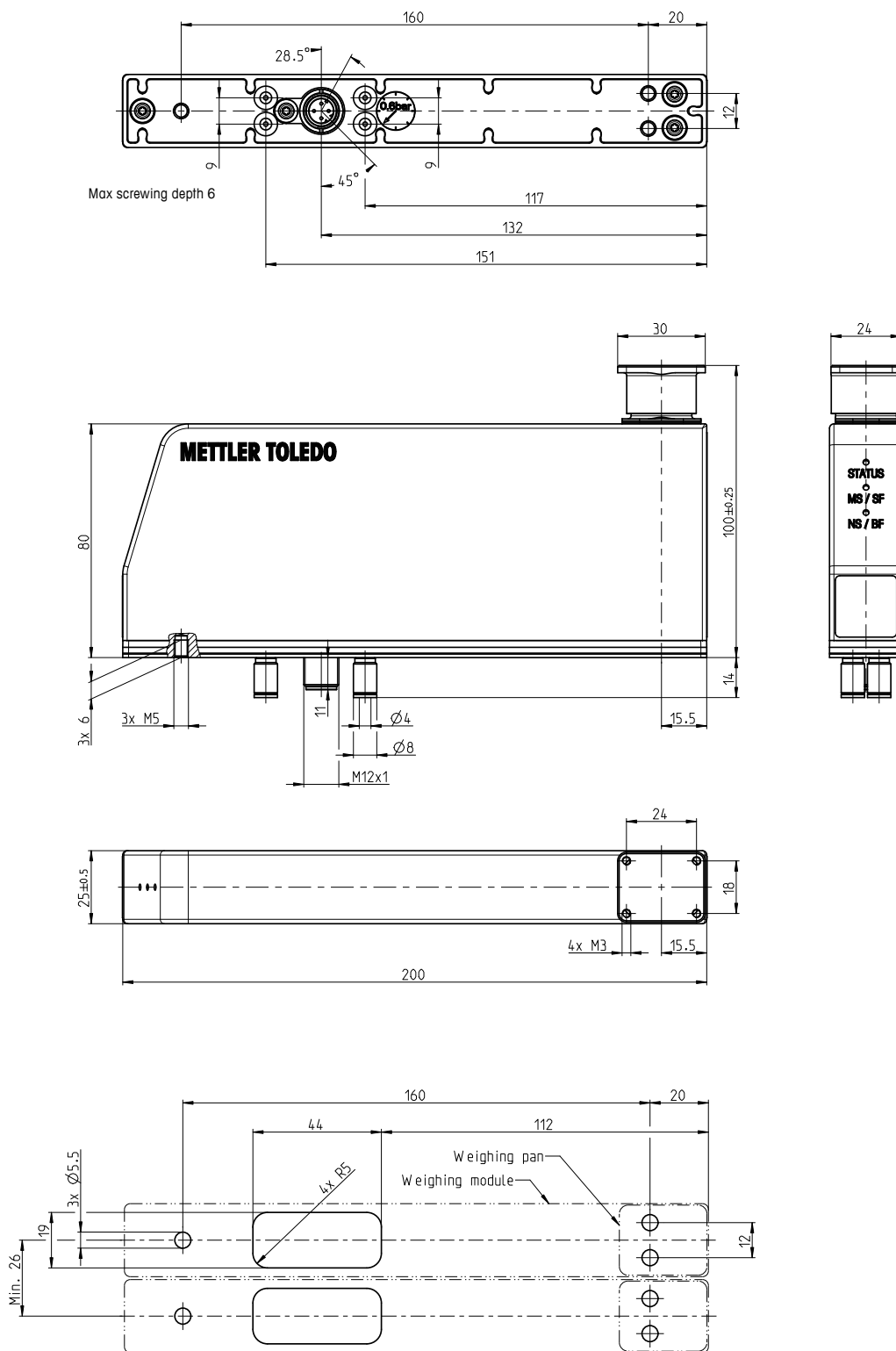
Operating temperature range	+10 ° to +30 °C
Allowable ambient temperature range	+5 ° to +40 °C
Height above mean sea level	Max. 4000 m
Relative air humidity	Max. 80 % at 31 °C, decreasing linearly to 50 % at 40 °C, non-condensing
Warm-up time	At least 45 minutes after connected to power

Materials

Housing, baseplate	Stainless steel (1.4404-316L)
Weighing platform	Stainless steel (1.4404-316L)
Seal between flange and upper part of housing	FPM, FDA-compliant
Seal between base plate and lower part of housing	Silicone, FDA-compliant
Wash-down bellows	Silicone, FDA-compliant
Seal below base plate	Silicone, FDA-compliant

Scope of Delivery: WMF weigh module with weighing platform, production certificate, declaration of conformity, user manual

Mechanical Drawings

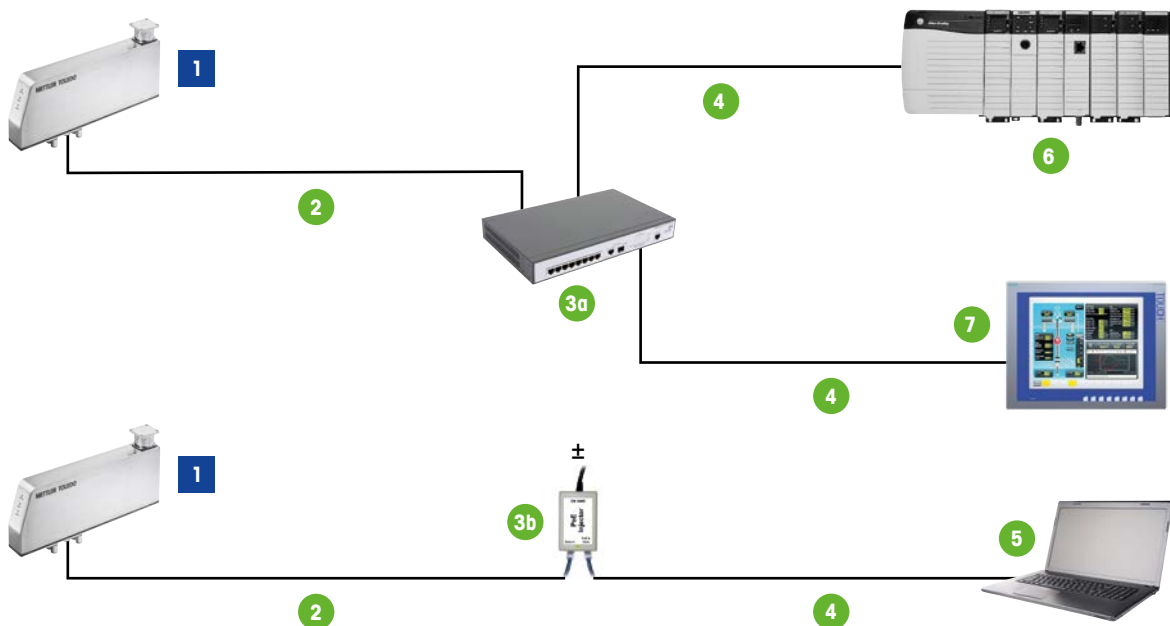


Accessories

The following accessories can be ordered separately:

Accessory	Order Number
Gasket bottom WMF	30307195
Air connector WMF (for cooling function)	30307194
Weighing platform (without threaded holes)	30300173
PoE injector (to supply power to the weigh module)	30326111
Ethernet/USB converter (to connect to a service PC or laptop)	30326110
Connection cable for the weigh module (M12 – RJ45, 2 m)	30326112

Typical Configurations



■ Available from METTLER TOLEDO ● 3rd party product

Pos	Item	Description	Order number
1	WMF weigh module	Different models available (incl. weighing platform)	See order information
2	Connection cable	Weigh module connection: M12-4 Position, D-Coded, Female	3 rd party item
3a	PoE Ethernet switch	For multiple point connection	3 rd party item
3b	Power injector	For single point connection to a PC or laptop	3 rd party item
4	Ethernet cable	To connect to a PC or laptop	3 rd party item
5	PC or Laptop	For service and test purpose	3 rd party item
6	PLC	Control system	3 rd party item
7	HMI	Human-Machine-Interface Customer interface to operate on weigh module	3 rd party item

Order Information

Module	Capacity/Resolution	Wash Down	Interface Type	
			Ethernet/IP	PROFINET IO RT
WMF204C	220 g / 0.1 mg	Yes	30282230	30282232
	220 g / 0.1 mg	No	30282219	30282231
WMF303C	320 g / 1 mg	Yes	30282234	30282236
	320 g / 1 mg	No	30282233	30282235



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Subject to technical changes
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