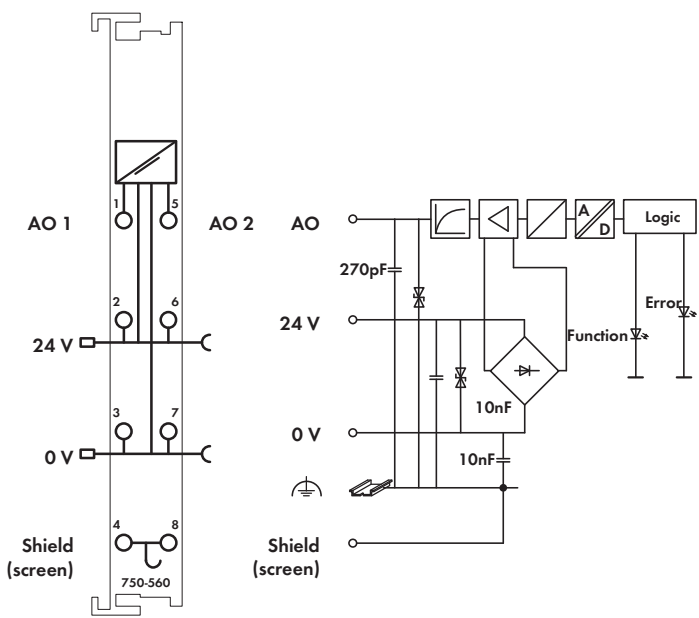
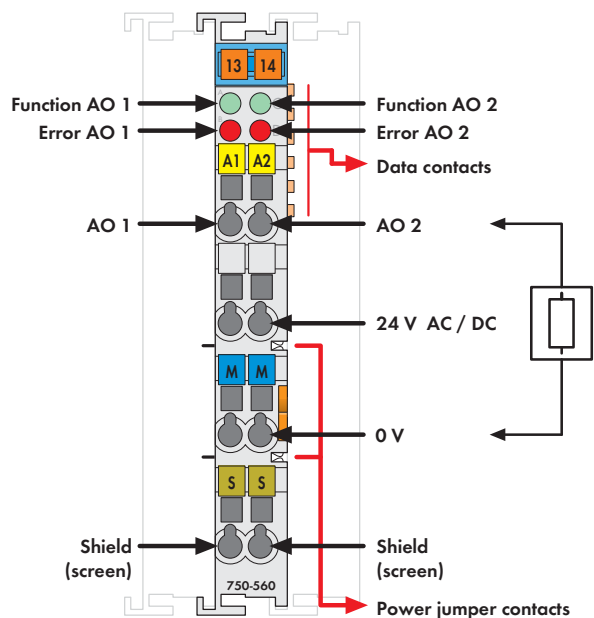


# 2-Channel Analog Output Module 0-10 V

10 bits, 10 mA



Delivered without miniature WSB markers

The analog output module generates signals of a standard magnitude 0–10V.

Both the internal system and field side supply are used to power the module.

The output signal is electrically isolated and transmitted with a resolution of 10 bits.


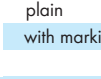
The output channels have one common ground potential.

The outputs are short-circuit proof.

The analog outputs and the 24V supply have one common ground potential so that actuators such as servo drives can be connected using a 3-conductor cable.

Each channel is equipped with an LED to indicate short-circuits or overloads  $\geq 15\text{mA}$ .

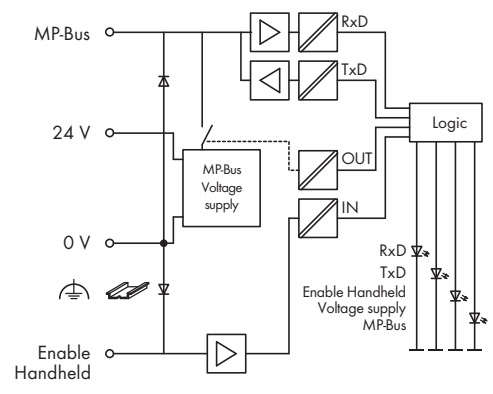
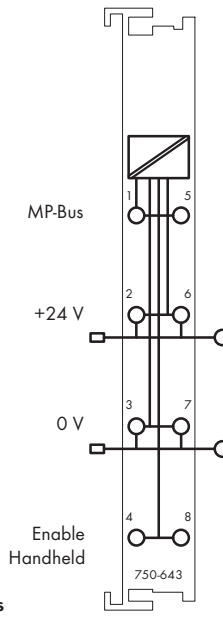
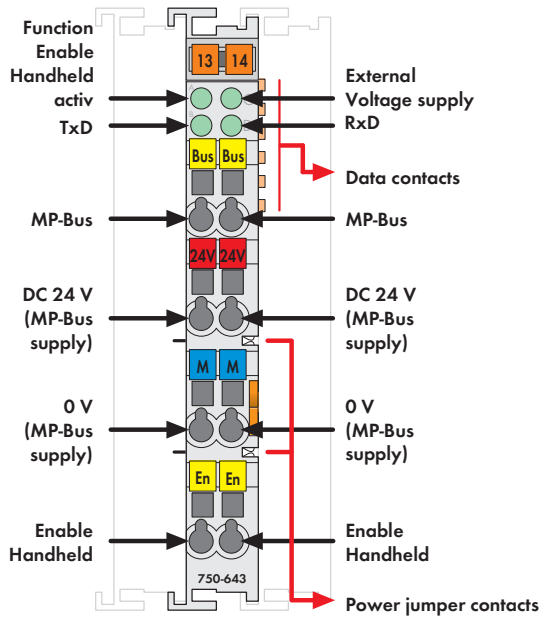
The shield (screen) is directly connected to the DIN rail.

Description	Item No.	Pack. Unit
<b>2AO 0-10 V DC 10 Bit 10mA 24V</b>	<b>750-560</b>	<b>1</b>
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	<b>248-501</b>	<b>5</b>
 with marking	see pages 352 ... 353	
<b>Approvals</b>		
Also see "Approvals Overview" in Section 1		
Conformity marking	<b>CE</b>	
UL 508		
ANSI/ISA 12.12.01	pending	
EN 60079-0, -15	pending	
EN 61241-0, -1		

Technical Data	
No. of outputs	2
Current consumption (internal)	16 mA
Voltage via power jumper contacts	24 V AC/DC
Signal voltage	0 V ... 10 V
Load impedance	$\geq 1 \text{ k}\Omega$
Resolution	10 bits
Conversion time	approx. 10 ms
Measuring error (25°C)	$< \pm 0.2 \%$ of the full scale value
Temperature coefficient	$< \pm 0.02 \%$ /K of the full scale value
Isolation	500 V system/supply
Bit width	2 x 16 bits data 2 x 8 bits control/status (option)
Wire connection	CAGE CLAMP®
Cross sections	0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14
Stripped lengths	8 ... 9 mm / 0.33 in
Width	12 mm
Weight	53.5 g
EMC: CE - immunity to interference	acc. to EN 61000-6-2 (2005)
EMC: CE - emission of interference	acc. to EN 61000-6-4 (2007)



# MP-Bus Master Module




Delivered without miniature WSB markers

The 750-643 I/O module acts as a master for the MP bus (Multi Point Bus from Belimo/Switzerland) and allows the bus to be integrated into a higher level bus network such as Ethernet or LONWORKS®. The MP-bus controls HVAC actuators for dampers, regulator valves or VAV air volume controls. An additional product series for MP bus connection is the window ventilation system (FLS) from Belimo (MP bus connection for Belimo actuators, see Belimo documentation).

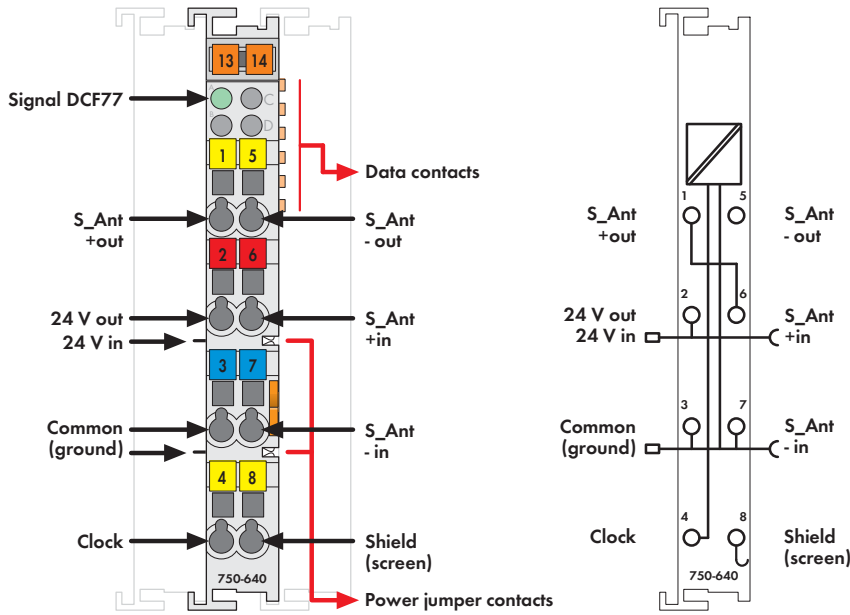
Devices that are equipped with an MP Bus connection, e.g. the Belimo MFT actuator series, can communicate with a higher level control via bus cable. The actuators have connections for active and passive sensors (temperature, humidity, ON/OFF switch, etc.), and are accessible via MP-Bus. An MP bus master, i.e., the WAGO I/O module, can manage up to 8 slaves (actuators) + 8 sensors (1 sensor can be connected to each slave) via a common bus line, which considerably reduces the wiring effort involved (for the actuators and sensors)(cable lengths for MP bus lines, see Belimo documentation\*).

\*Documentation available in German and English.

A Belimo parameterization unit (hand-held control unit, or Belimo PC tool) can be connected to the module to configure the Belimo actuators. The enable handheld contact can be used for this. The module deactivates its MP bus communication when the external parameterization unit is connected to this contact (or simply to the +24V power supply).

Description	Item No.	Pack. Unit
MP Bus Master module	750-643	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see pages 352 ... 353	
<b>Approvals</b>		
Also see "Approvals Overview" in Section 1		
Conformity marking	CE	
UL 508		
ANSI/ISA 12.12.01	Class I Div2 ABCD T4	
EN 60079-0, -15	I M2 / II 3 GD Ex nA IIC T4	
EN 61241-0, -1		

Technical Data	
MP Bus specifications	PP/MP specifications V1.21 from Belimo (Valid since 1.10.2002)
No. of slaves	max. 8
Voltage supply (MP-Bus)	DC24 V
Current consumption (MP-Bus)	25 mA without motor current (for MP-Bus) if the motors are supplied via the MP-Bus module, all motor currents must be added
Current consumption (internal)	15 mA
Power supply	via system voltage DC/DC
Isolation	500 V eff MP-bus/system
Internal bit width	1 byte C/S, 7 byte data
Wire connection	CAGE CLAMP®
Cross sections	0.08 mm² ... 2.5 mm² / AWG 28 ... 14
Stripped lengths	8 ... 9 mm / 0.33 in
Width	12 mm
Weight	52.3 g
EMC: CE - immunity to interference	acc. to EN 61000-6-2 (2002)
EMC: CE - emission of interference	acc. to EN 61000-6-3 (2004)




Delivered without miniature WSB markers

The 750-640 RTC Module provides the higher-level control system with the actual time. The time is buffered and continues to run in the event of a power failure. When an external receiver is connected, the clock can be set using the time signal from DCF77, WWVB, or MSF. By default the module is set to receive DCF77 signals. The receiver can be supplied directly via the module. Connecting an external receiver to operate the RTC module is not absolutely necessary.

The module also counts the power-on time of the 32 channels.

With its 32 channels, the integrated time switch clock function makes it easier for the control unit to process time-triggered actions.

Description	Item No.	Pack. Unit
RTC module	750-640	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see pages 352 ... 353	
<b>Approvals</b>		
Also see "Approvals Overview" in Section 1		
Conformity marking	CE	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
EN 60079-0, -15	I M2 / II 3 GD Ex nA IIC T4	
EN 61241-0, -1		

Technical Data	
Current consumption (internal)	< 20 mA
Voltage via power jumper contacts	24 V DC (-15 % ... +20 %)
Clock	
Accuracy (+25 °C)	< 1 min/month
Accuracy (+10 °C ... +40 °C)	< 2 min/month
Accuracy (-25 °C ... +85 °C)	< 7 min/month
Drift	< 2 min/year
Buffer length	> 6 days
Clock Timer	
Number of channels	32
Switching points	32 (per 32 channels on/off)
Signal voltage (0)	-24 V ... +1 V
Signal voltage (1)	3 V ... 24 V
Open-circuit voltage	DC 4 V
Input filter	10 ms
Input current (typ.)	< 5 mA (at 24 V)
	< 1 mA (at 5 V)
Supply S <sub>ant, in</sub>	5 V ... 24 V DC
Isolation	500 V system/supply
Current consumption typ. (field side)	11 mA + load
Internal bit width	1 x 40 bits data (in/out)
	(5 bytes user data)
	1 x 8 bits control/status (optional)
Wire connection	
Cross sections	0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14
Stripped lengths	8 ... 9 mm / 0.33 in
Width	12 mm
Weight	52 g
EMC: CE - immunity to interference	acc. to EN 61000-6-2 (2005)
EMC: CE - emission of interference	acc. to EN 61000-6-3 (2007)