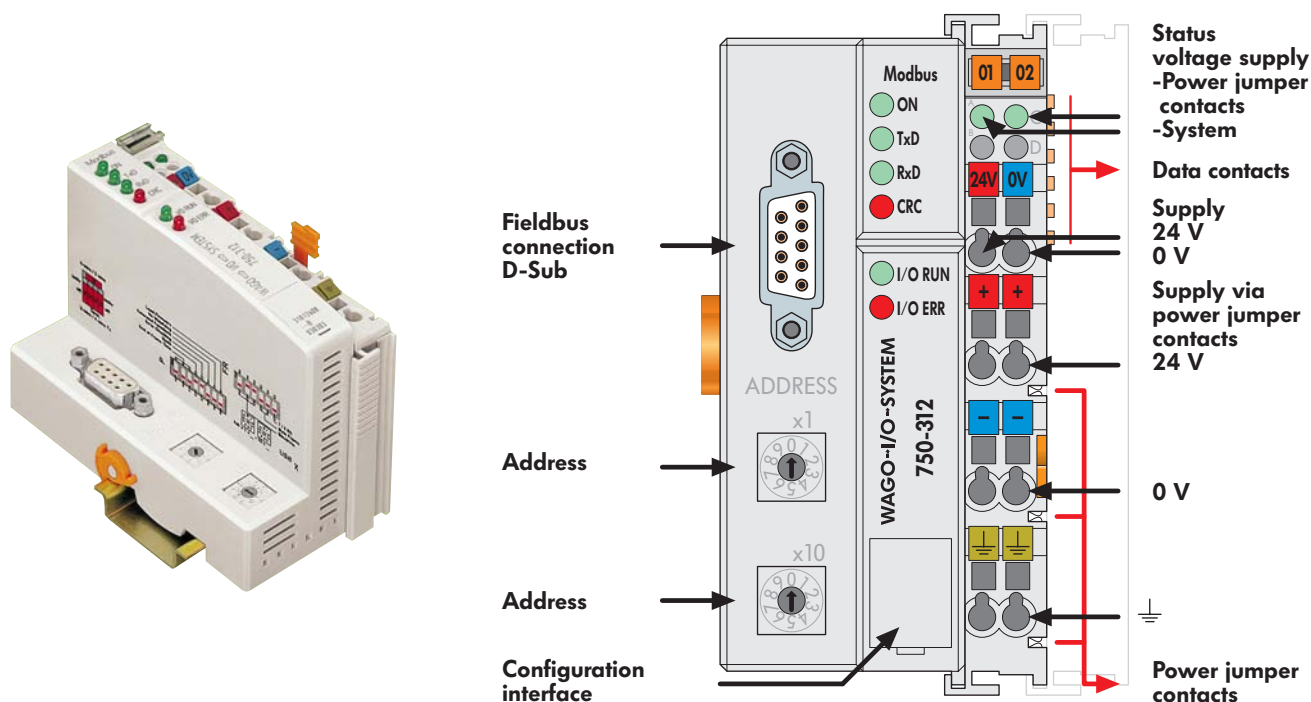


MODBUS Fieldbus Coupler;

RS 232 / 485; 150 (1200) baud ... 19 200 (115 200) baud; digital and analog signals



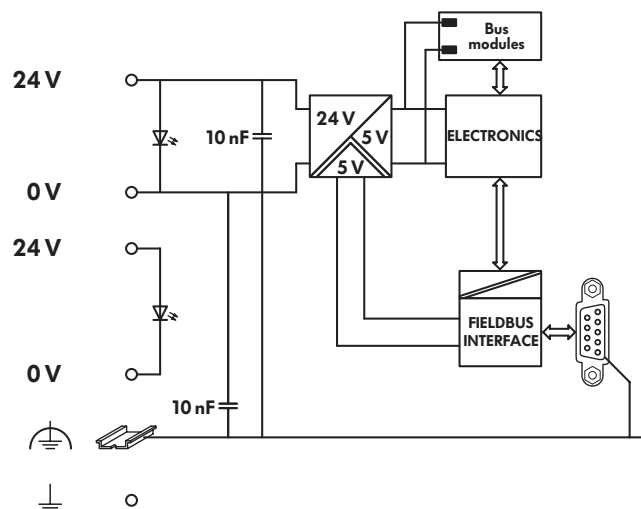
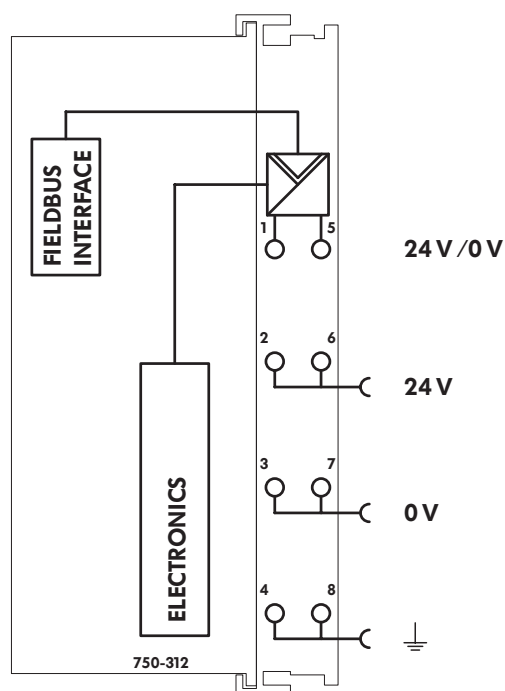
This buscoupler allows connection of the WAGO → I/O → SYSTEM as a slave to the MODBUS fieldbus.

The buscoupler is capable of supporting all bus modules. The buscoupler automatically configures, creating a local process image which may include analog, digital or specialty modules. Analog and specialty module data is sent via words and/or bytes, digital data is sent bit by bit.

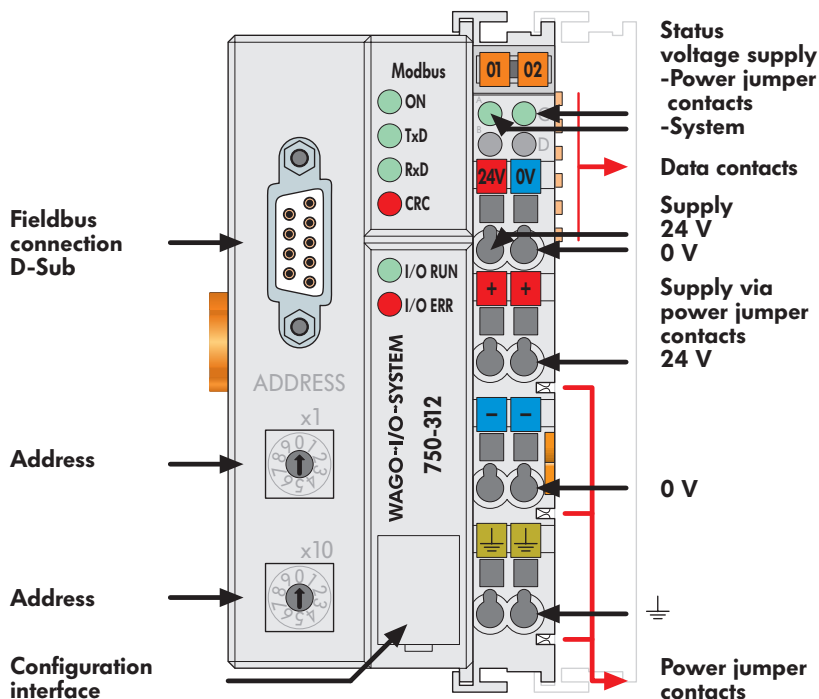
MODBUS allows the storing of the process image in the corresponding Master control (PLC, PC or NC).

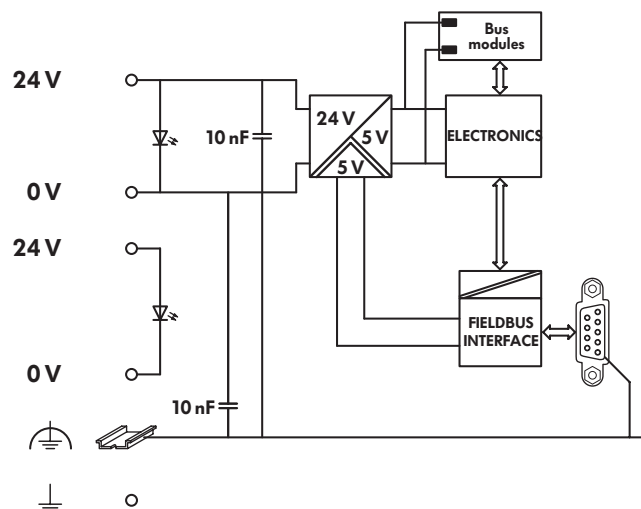
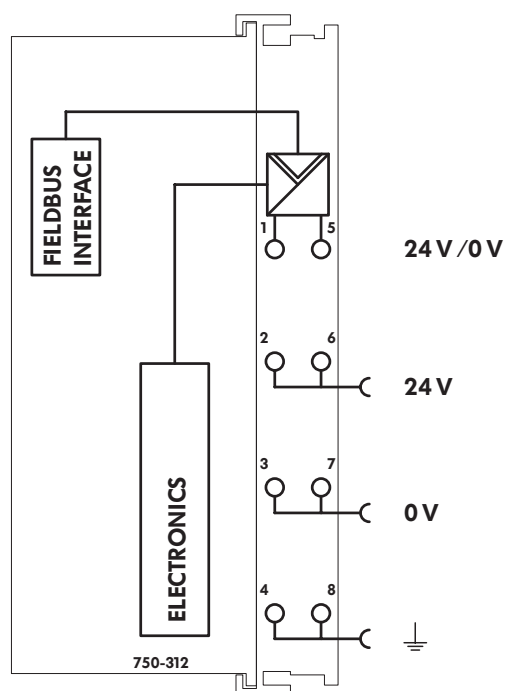
The data of the analog modules is stored in the process image which is created automatically according to the order in which the modules are connected to the buscoupler. The bits of the digital modules are sent byte by byte and added to the analog data (registers). If the amount of digital information exceeds 8 bits, the buscoupler automatically starts with a new byte.

[illegible]



Technical Data		General specifications	
Max. no. of I/O modules	64	Operating temperature	0 °C ... +55 °C
Fieldbus		Wire connection CAGE CLAMP®	0.08 mm² ... 2.5 mm²; AWG 28 ... 14
-Input process image	max. 512 bytes		8 ... 9 mm / 0.33 in stripped length
-Output process image	max. 512 bytes	Dimensions (mm) W x H x L	51 x 65* x 100
Configuration	DIP switch and 2 decimal Coder or via PC or PLC		* from upper edge of DIN 35 rail
Voltage supply	DC 24 V (-25 % ... +30 %)	Weight	ca 200 g
Input current max.	500 mA at 24 V	Storage temperature	-25 °C ... +85 °C
Efficiency of the power supply	87 %	Relative air humidity	95 % no condensation
Internal current consumption	350 mA at 5 V	Vibration and shock resistance	acc. to IEC 60068-2-6 acc. to IEC 60068-2-27
Total current for I/O modules	1650 mA at 5 V	Degree of protection	IP 20
Isolation	500 V system / supply	EMC CE -Immunity to interference	acc. to EN 50082-2 (1996)
Voltage via power jumper contacts	DC 24 V (-25 % ... +30 %)	EMC CE -Emission of interference	acc. to EN 50081-1 (1993)
Current via power jumper contacts max.	DC 10 A	EMC marine applications -Immunity to interf.	acc. to Germanischer Lloyd (1997)
		EMC marine applications -Emission of interf.	acc. to Germanischer Lloyd (1997)
		Approvals	
		UL and marine applications	see pages 1.10 ... 1.13
		CE	II 3 G EEx nA II T4 (750-312)
			II 3 GD EEx nA II T4 (750-314, -315, -316)
			Class I Div2 ABCD T4A (750-314, -315, -316)
		Conformity marking	CE
		Accessories	Item-No.
		Miniature WSB quick marking system	Pack.-unit pcs
		plain	248-501 5
		with marking	see pages 1.174 ... 1.175

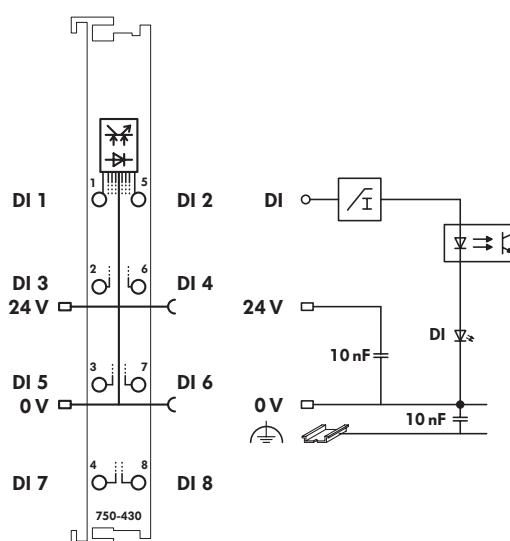
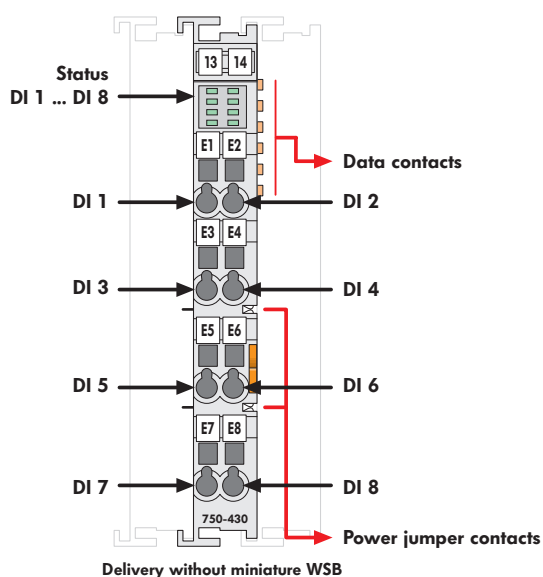




Technical Data		General specifications	
Max. no. of I/O modules	64	Operating temperature	0 °C ... +55 °C
Fieldbus		Wire connection CAGE CLAMP®	0.08 mm² ... 2.5 mm²; AWG 28 ... 14
-Input process image	max. 512 bytes		8 ... 9 mm / 0.33 in stripped length
-Output process image	max. 512 bytes	Dimensions (mm) W x H x L	51 x 65* x 100
Configuration	DIP switch and 2 decimal Coder or via PC or PLC		* from upper edge of DIN 35 rail
Voltage supply	DC 24 V (-25 % ... +30 %)	Weight	ca 200 g
Input current max.	500 mA at 24 V	Storage temperature	-25 °C ... +85 °C
Efficiency of the power supply	87 %	Relative air humidity	95 % no condensation
Internal current consumption	350 mA at 5 V	Vibration and shock resistance	acc. to IEC 60068-2-6 acc. to IEC 60068-2-27
Total current for I/O modules	1650 mA at 5 V	Degree of protection	IP 20
Isolation	500 V system / supply	EMC CE -Immunity to interference	acc. to EN 50082-2 (1996)
Voltage via power jumper contacts	DC 24 V (-25 % ... +30 %)	EMC CE -Emission of interference	acc. to EN 50081-1 (1993)
Current via power jumper contacts max.	DC 10 A	EMC marine applications -Immunity to interf.	acc. to Germanischer Lloyd (1997)
		EMC marine applications -Emission of interf.	acc. to Germanischer Lloyd (1997)
		Approvals	
		UL and marine applications	see pages 1.10 ... 1.13
		CE	II 3 G EEx nA II T4 (750-312)
			II 3 GD EEx nA II T4 (750-314, -315, -316)
			Class I Div2 ABCD T4A (750-314, -315, -316)
		Conformity marking	CE
		Accessories	Item-No.
		Miniature WSB quick marking system	Pack.-unit pcs
		plain	248-501 5
		with marking	see pages 1.174 ... 1.175

8-Channel Digital Input Module DC 24 V

1-conductor connection; high-side switching



The digital input modules provide 8 channels maintaining a width of only 12mm.

They receive control signals from digital field devices (sensors, etc.).

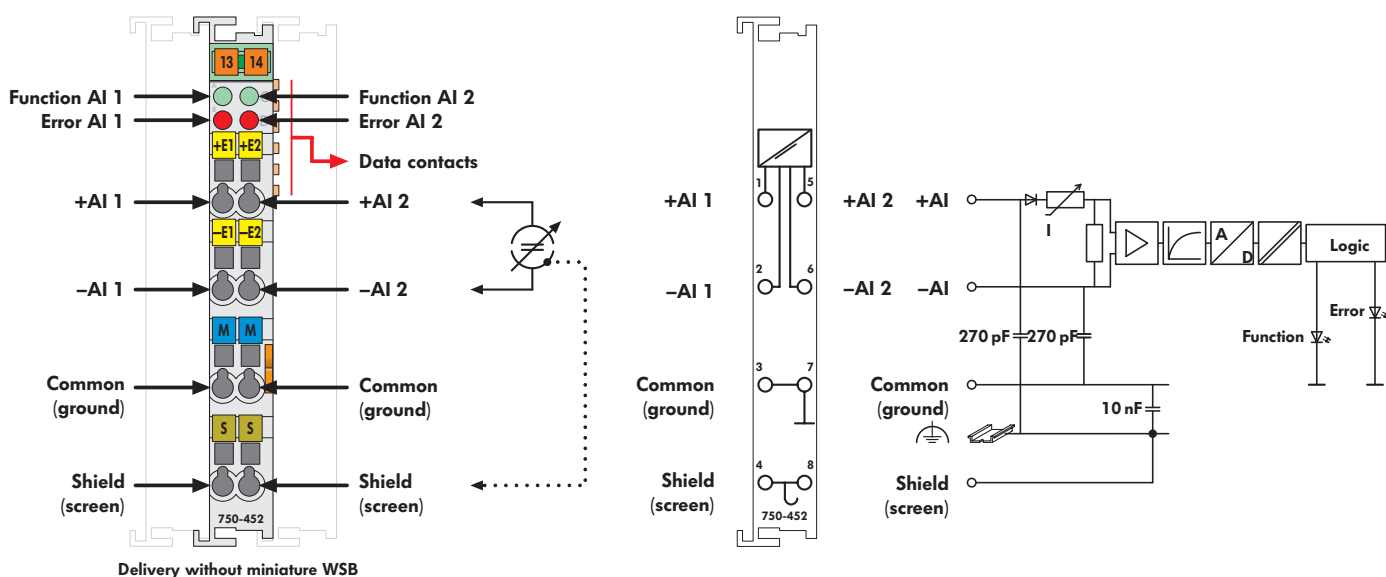
Each input module has a noise-rejection filter. This filter is available with different time constants.

An optocoupler is used for electrical isolation between the bus and the field side.

Description	Item-No.	Pack.-unit pcs	Technical Data
8DI 24V DC 3.0ms	750-430	10 ¹⁾	No. of outputs 8
8DI 24V DC 0.2ms	750-431	10 ¹⁾	Current consumption (internal) 17 mA
			Nominal voltage DC 24 V (-15 % ... +20 %)
			Signal voltage (0) DC -3 V ... +5 V
			Signal voltage (1) DC 15 V ... 30 V
			Input filter 3.0 ms (750-430)
			0.2 ms (750-431)
			Current supply _{typ} 2,8 mA
			Isolation 500 V system / supply
			Internal data size 8 bits
¹⁾ Also available individually			
General specifications			
Operating temperature	0°C ... +55°C		
Wire connection CAGE CLAMP®	0.08 mm² ... 2.5 mm²; AWG 28 ... 14		
	8 ... 9 mm / 0.33 in stripped length		
Dimensions (mm) W x H x L	12 x 64* x 100		
	* from upper edge of 35 DIN rail		
Weight	ca 50 g		
Storage temperature	-25°C ... +85°C		
Relative air humidity	95 % no condensation		
Vibration and shock resistance	acc. to IEC 60068-2-6		
	acc. to IEC 60068-2-27		
Degree of protection	IP 20		
EMC CE -Immunity to interference	acc. to EN 50082-2 (1996)		
EMC CE -Emission of interference	acc. to EN 50081-1 (1993)		
Approvals			
UL	see pages 1.10 ... 1.13		
Ex	II 3 GD EEx nA II T4, Class I Div2 ABCD T4A		
Conformity marking	CE		
Accessories			
	Item-No.	Pack.-unit pcs	
	Miniature WSB quick marking system		
	plain	248-501	5
	with marking	see pages 1.174 ... 1.175	

2-Channel Analog Input Module 0 / 4-20 mA

differential inputs



The analog input module receives signals with standardized values of 0-20 mA and 4-20 mA.

The input signal is electrically isolated and will be transmitted with a resolution of 12 bits.

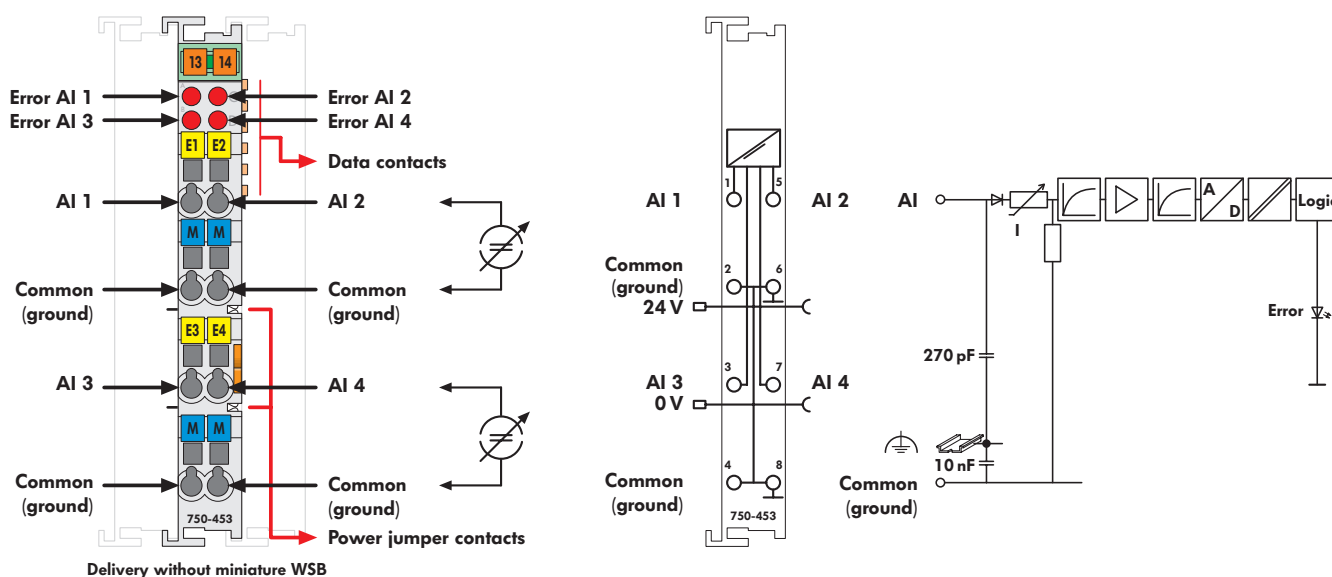
The internal system supply (via the data bus contacts) is used for the power supply of the module.

The input channels are differential inputs. The shield (screen) is directly connected to the DIN rail.

Description	Item-No.	Pack.-unit pcs	Technical Data	
2AI 0-20mA Diff.	750-452	10 ¹⁾	No. of inputs	2
2AI 4-20mA Diff.	750-454	10 ¹⁾	Voltage supply	via system voltage DC / DC
			Current consumption typ. (internal)	70 mA
			Common mode voltage max.	35 V
2AI 0-20mA Diff./S5 ²⁾	750-452/000-200	1	Signal current	0 mA ... 20 mA (750-452)
2AI 4-20mA Diff./S5 ²⁾	750-454/000-200	1		4 mA ... 20 mA (750-454)
			Input resistance	< 220 Ω at 20 mA
			Resolution	12 bits
			Conversion time typ.	2 ms
			Measuring error 25°C	< ± 0.2 % of the full scale value
			Temperature coefficient	< ± 0.01 % / 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)
General specifications				
Operating temperature	0°C ... +55°C			
Wire connection CAGE CLAMP®	0.08 mm² ... 2.5 mm²; AWG 28 ... 14			
	8 ... 9 mm / 0.33 in stripped length			
Dimensions (mm) W x H x L	12 x 64* x 100			
	* from upper edge of 35 DIN rail			
Weight	ca 55 g			
Storage temperature	-25°C ... +85°C			
Relative air humidity	95 % no condensation			
Vibration and shock resistance	acc. to IEC 60068-2-6			
Degree of protection	IP 20			
EMC CE - Immunity to interference	acc. to EN 50082-2 (1996)			
EMC CE - Emission of interference	acc. to EN 50081-1 (1993)			
EMC marine applications - Immunity to interf.	acc. to Germanischer Lloyd (1997)			
EMC marine applications - Emission of interf.	acc. to Germanischer Lloyd (1997)			
Approvals				
UL and marine applications	see pages 1.10 ... 1.13			
Ex	II 3 G EEx nA II T4, Class I Div2 ABCD T4A			
Conformity marking	CE			
Accessories				
	Item-No.	Pack.-unit pcs		
	Miniature WSB quick marking system			
	plain 248-501	5		
	with marking	see pages 1.174 ... 1.175		

4-Channel Analog Input Module 0 / 4-20 mA

single-ended (S.E.)



The analog input module receives signals with standardized values of 0-20 mA and 4-20 mA.

The input signal is electrically isolated and will be transmitted with a resolution of 12 bits.

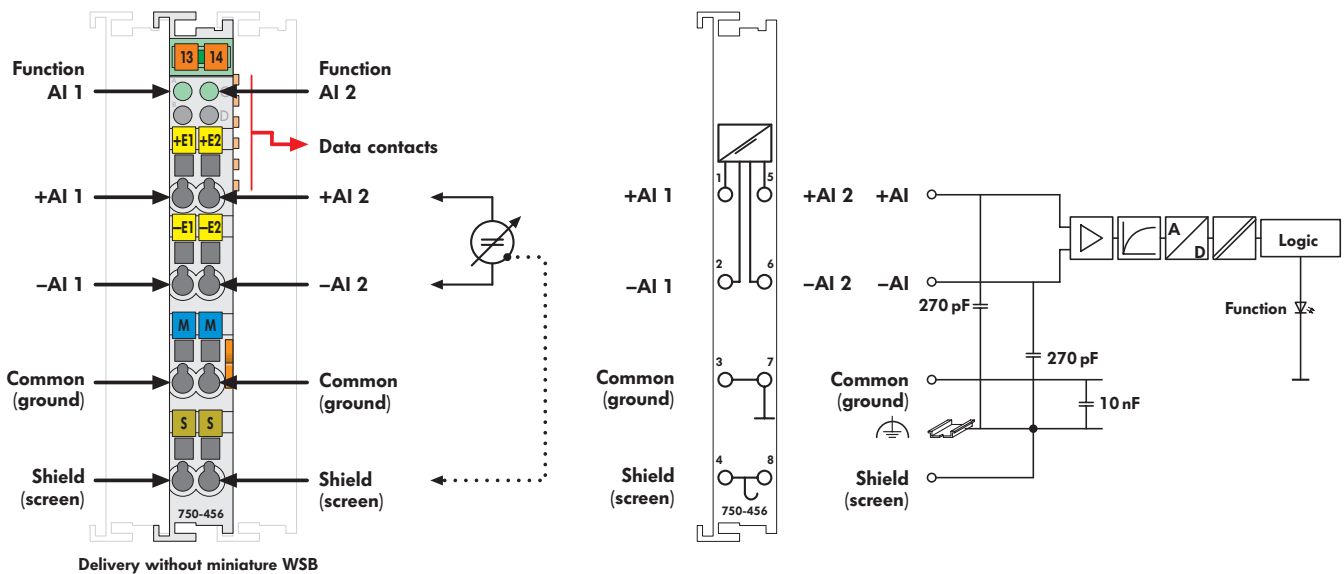
The internal system supply is used for the power supply of the module.

The input channels of the module have one common potential.

Description	Item-No.	Pack.-unit pcs	Technical Data	
4AI 0-20mA single ended	750-453	10 ¹⁾	No. of inputs	4
4AI4 -20mA single ended	750-455	10 ¹⁾	Voltage supply	via system voltage DC / DC
			Current consumption (internal)	65 mA
			Input voltage max.	32 V
			Signal current	0 mA ... 20 mA (750-453) 4 mA ... 20 mA (750-455)
			Input resistance	< 100 Ω at 20 mA
			Resolution	12 bits
			Conversion time typ.	10 ms
			Measuring error 25°C	< ± 0.1 % of the full scale value
			Temperature coefficient	< ± 0.01 % / K of the full scale value
			Isolation	500 V system / supply
			Bit width	4 x 16 bits data 4 x 8 bits control / status (option)
¹⁾ Also available individually				
General specifications				
Operating temperature	0°C ... +55°C			
Wire connection CAGE CLAMP®	0.08 mm² ... 2.5 mm²; AWG 28 ... 14			
	8 ... 9 mm / 0.33 in stripped length			
Dimensions (mm) W x H x L	12 x 64* x 100			
	* from upper edge of 35 DIN rail			
Weight	ca 55 g			
Storage temperature	-25°C ... +85°C			
Relative air humidity	95% no condensation			
Vibration and shock resistance	acc. to IEC 60068-2-6 acc. to IEC 60068-2-27			
Degree of protection	IP 20			
EMC CE - Immunity to interference	acc. to EN 50082-2 (1996)			
EMC CE - Emission of interference	acc. to EN 50081-1 (1993)			
Approvals				
UL	see pages 1.10 ... 1.13			
Ex	II 3 G EEx nA II T4, Class I Div2 ABCD T4A			
Conformity marking	CE			
Accessories				
	Item-No.	Pack.-unit pcs		
	Miniature WSB quick marking system			
	plain 248-501	5		
	with marking	see pages 1.174 ... 1.175		

2-Channel Analog Input Module $\pm 10\text{ V}$

differential inputs



This analog input module receives signals with standardized values of $\pm 10\text{ V}$.

The input signal is electrically isolated and will be transmitted with a resolution of 12 bits.

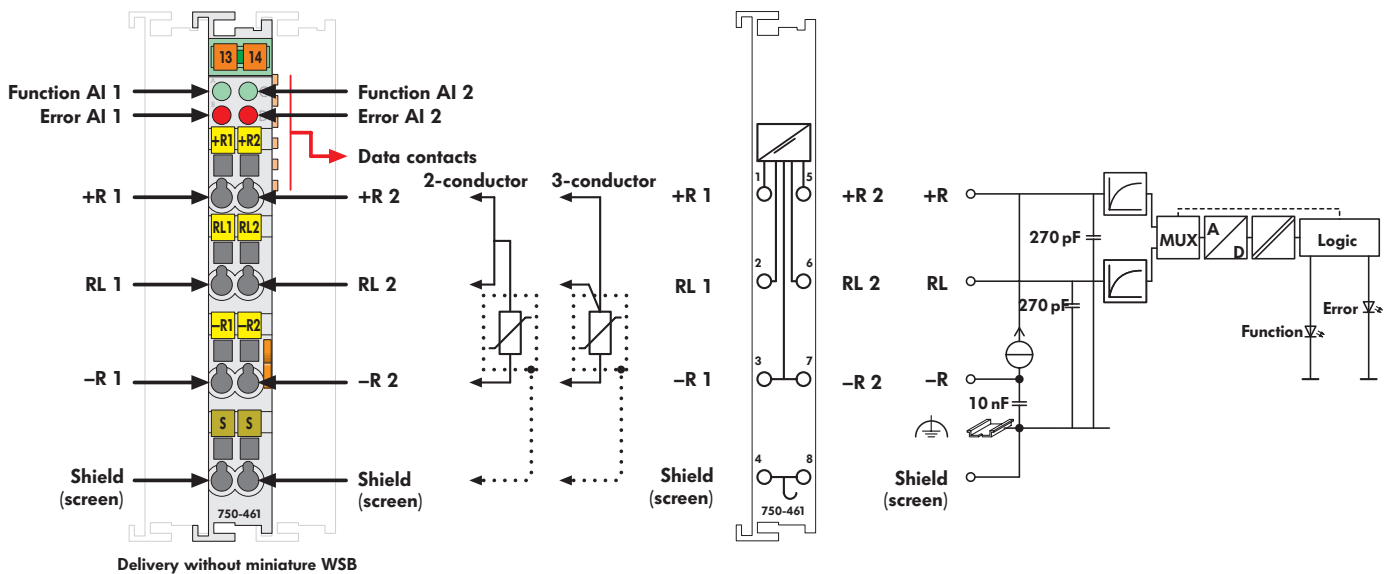
The internal system supply (via the data bus contacts) is used for the power supply of the module.

The input channels are differential inputs.

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

Description	Item-No.	Pack.-unit pcs	Technical Data	
2AI ±10V DC	750-456	10 ¹⁾	No. of inputs	2
			Voltage supply	via system voltage DC / DC
2AI ±10V DC S5 ²⁾	750-456/000-200	1	Current consumption _{typ.} (internal)	65 mA
			Common mode voltage _{max.}	35 V
			Signal voltage	± 10 V
			Internal resistance _{typ.}	570 kΩ
			Resolution	12 bits
			Conversion time _{typ.}	2 ms
			Measuring error _{25°C}	< ± 0.2 % of the full scale value
			Temperature coefficient	< ± 0.015 % / 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)
General specifications				
Operating temperature	0 °C ... +55 °C			
Wire connection CAGE CLAMP®	0.08 mm ² ... 2.5 mm ² ; AWG 28 ... 14			
	8 ... 9 mm / 0.33 in stripped length			
Dimensions (mm) W x H x L	12 x 64* x 100			
	* from upper edge of 35 DIN rail			
Weight	ca 55 g			
Storage temperature	-25 °C ... +85 °C			
Relative air humidity	95 % no condensation			
Vibration and shock resistance	acc. to IEC 60068-2-6			
Degree of protection	IP 20			
EMC C€ -Immunity to interference	acc. to EN 50082-2 (1996)			
EMC C€ -Emission of interference	acc. to EN 50081-1 (1993)			
Approvals				
cULus	see pages 1.10 ... 1.13			
Ex	II 3 G EEx nA II T4, Class I Div2 ABCD T4A			
Conformity marking	C€			
Accessories				
	Item-No.	Pack.-unit pcs		
	Miniature WSB quick marking system			
	plain	248-501	5	
	with marking	see pages 1.174 ... 1.175		

2-Channel Input Module for RTDs



The RTD (resistive temperature device) input module allows the direct connection of Pt or Ni resistance sensors.

The connection of 2- or 3-conductor sensors is possible.

The module linearizes the entire temperature range automatically. A sensor error is indicated by a red LED.

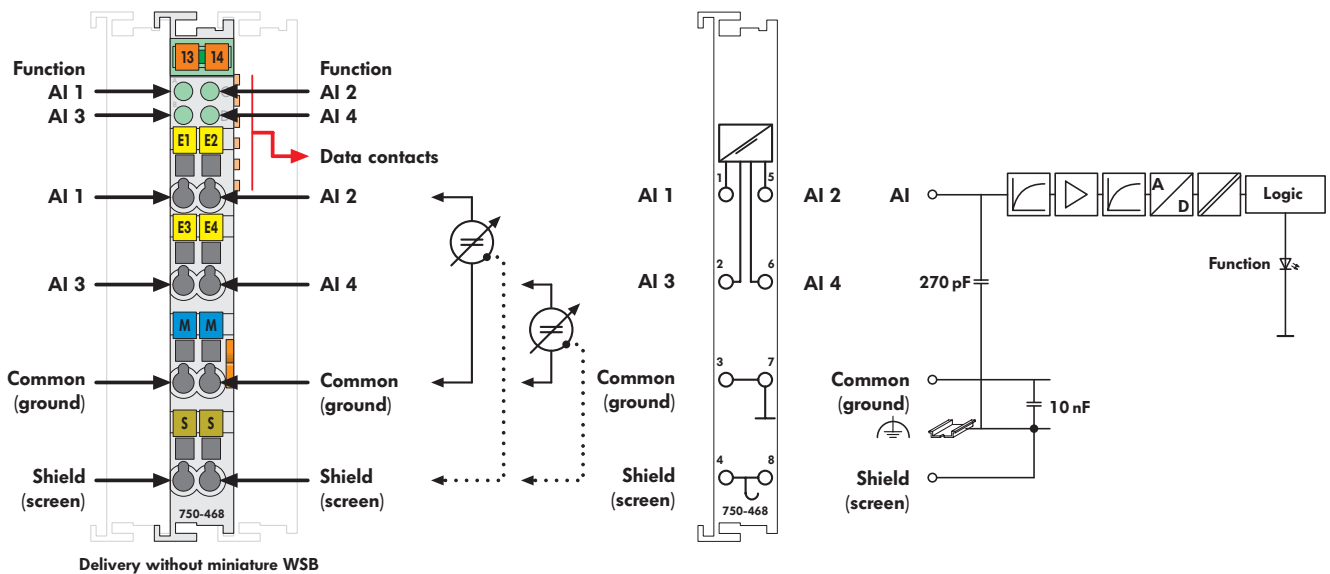
A green LED indicates readiness for operation and trouble-free communication with the buscoupler.

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

Description	Item-No.	Pack.-unit pcs	Technical Data
2AI Pt100/RTD	750-461	10 ¹⁾	No. of inputs 2
			Voltage supply via system voltage DC / DC
			Current consumption max. (internal) 65 mA
Pt resistance sensors			Sensor types Pt 100 (factory preset), Pt 200, Pt 500, Pt 1000, Ni 100, Ni 120, Ni 1000, resistance measuring
2AI Pt1000/ RTD	750-461/000-003	1	Sensor connection 3-wire connection (factory preset) or 2-wire
2AI Pt100/ RTD/ S5 ²⁾	750-461/000-200	1	Temperature range -200 °C ... +850 °C (PT)
2AI Pt100/ free configurable	750-461/003-000	1	-60 °C ... +250 °C (Ni)
Ni resistance sensors			Resolution (over whole range) 0.1 °C
2AI Ni100/ RTD	750-461/000-004	1	Conversion time 320 ms (per channel)
2AI Ni1000/ RTD	750-461/000-005	1	Measuring error 25°C < ±0.2 % of full scale value
Resistance measuring			Temperature coefficient < ±0.01 %/K of full scale value
2AI Resistance Measur. 10R-1k2	750-461/000-002	1	Isolation 400 V system / supply
2AI Resistance Measur. 10R-5k0	750-461/000-007	1	Measured current typ. 0.5 mA
Other variations are available upon request:			Bit width 2 x 16 bits data
Pt 100, Pt 200, Pt 500, Pt 1000	-200 °C ... +850 °C		2 x 8 bits control/ status (option)
Ni 100, Ni 1000	-60 °C ... +250 °C		
Resistance measuring			
			General specifications
			Operating temperature 0 °C ... +55 °C
			Wire connection CAGE CLAMP® 0.08 mm² ... 2.5 mm²; AWG 28 ... 14
			8 ... 9 mm / 0.33 in stripped length
			Dimensions (mm) W x H x L 12 x 64* x 100
			* from upper edge of 35 DIN rail
			Weight ca 55 g
			Storage temperature -25 °C ... +85 °C
			Relative air humidity 95 % no condensation
			Vibration and shock resistance acc. to IEC 60068-2-6
			Degree of protection acc. to IEC 60068-2-27
			IP 20
			EMC CE -Immunity to interference acc. to EN 50082-2 (1996)
			EMC CE -Emission of interference acc. to EN 50081-1 (1993)
			EMC marine applications -Immunity to interf. acc. to Germanischer Lloyd (1997)
			EMC marine applications -Emission of interf. acc. to Germanischer Lloyd (1997)
Approvals			
UL and marine applications	see pages 1.10 ... 1.13		
Ex	II 3 G EEx nA II T4, Class I Div2 ABCD T4A		
Conformity marking	CE		
Accessories	Item-No.	Pack.-unit pcs	
	Miniature WSB quick marking system		
	plain 248-501	5	
	with marking see pages 1.174 ... 1.175		

4-Channel Analog Input Module 0-10 V

single-ended (S.E.)

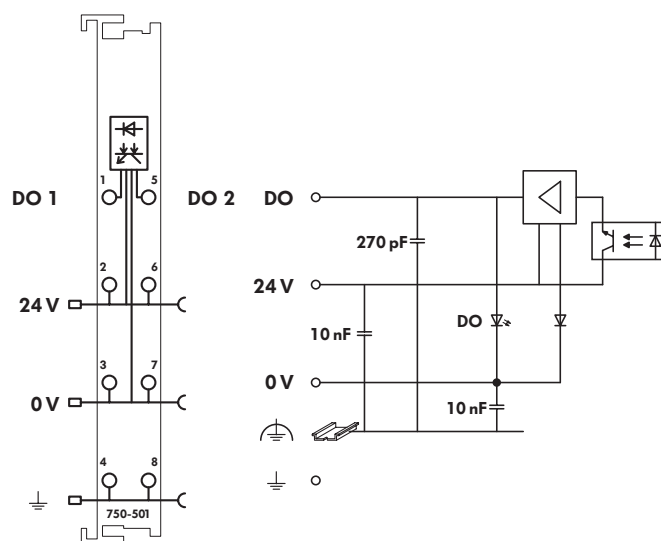
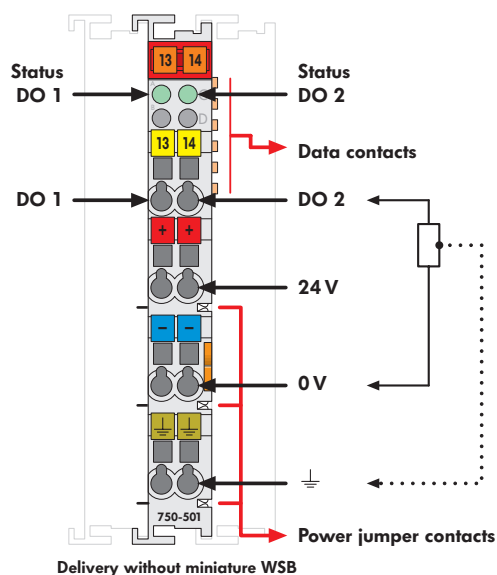


The analog input module receives signals with the standard-ized values of 0-10 V.
 The input signal is electrically isolated and will be transmitted with a resolution of 12 bits.
 The internal system supply is used for the power supply of the module.
 The input channels of a module have one common ground potential.
 The shield (screen) is directly connected to the DIN rail.

Description	Item-No.	Pack.-unit pcs	Technical Data
4AI 0-10V DC single ended	750-468	1	No. of inputs 4
4AI 0-10V DC S.E., w/S5 ¹⁾	750-468/000-200	1	Voltage supply via system voltage DC / DC
			Current consumption _{typ.} (internal) 60 mA
			Input voltage _{max} 35 V
			Signal voltage 0 V ... 10 V
			Internal resistance _{typ.} 133 kΩ
			Resolution 12 bits
			Conversion time _{typ.} 4 ms
			Measuring error _{25°C} ≤ ± 0.2 % of the full scale value
			Temperature coefficient < ± 0.01 % / K of the full scale value
			Isolation 500 V system / supply
			Bit width 4 x 16 bits data
			4 x 8 bits control / status (option)
General specifications			
Operating temperature	0 °C ... +55 °C		
Wire connection CAGE CLAMP®	0.08 mm² ... 2.5 mm²; AWG 28 ... 14		
	8 ... 9 mm / 0.33 in stripped length		
Dimensions (mm) W x H x L	12 x 64* x 100		
	* from upper edge of 35 DIN rail		
Weight	ca 55 g		
Storage temperature	-25 °C ... +85 °C		
Relative air humidity	95 % no condensation		
Vibration and shock resistance	acc. to IEC 60068-2-6		
	acc. to IEC 60068-2-27		
Degree of protection	IP 20		
EMC CE - Immunity to interference	acc. to EN 50082-2 (1996)		
EMC CE - Emission of interference	acc. to EN 50081-1 (1993)		
EMC marine applications - Immunity to interf.	acc. to Germanischer Lloyd (1997)		
EMC marine applications - Emission of interf.	acc. to Germanischer Lloyd (1997)		
Approvals			
UL and marine applications	see pages 1.10 ... 1.13		
CE	II 3 G EEx nA II T4, Class I Div2 ABCD T4A		
Conformity marking	CE		
Accessories			
	Item-No.	Pack.-unit pcs	
	Miniature WSB quick marking system		
	plain 248-501	5	
	with marking see pages 1.174 ... 1.175		

2-Channel Digital Output Module DC 24 V

short-circuit-protected; high-side switching



The connected load is switched via the digital output from the control system.

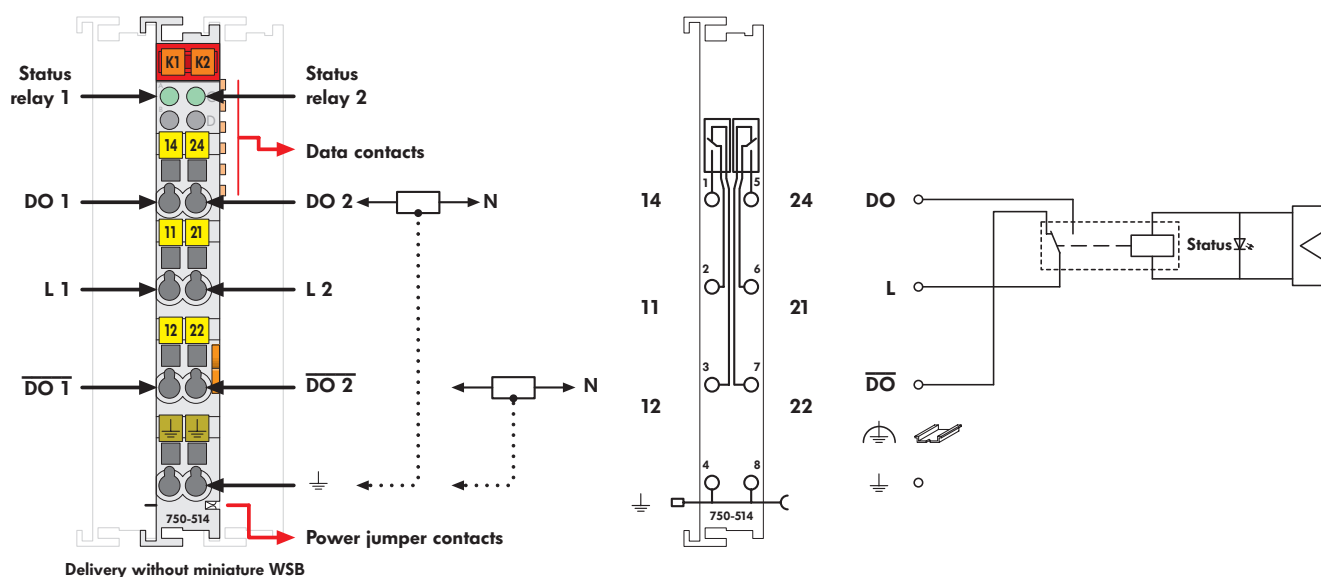
All outputs are electronically short-circuit-protected.

The module is a 2-channel, 4-conductor device. Actuators with ground (earth) wire may be directly connected to the module.

Each input is electrically isolated from the bus by use of optocouplers.

Description	Item-No.	Pack.-unit pcs	Technical Data
2DO 24V DC 0.5A	750-501	10 ¹⁾	No. of outputs 2
2DO 24V DC 2.0A	750-502	10 ¹⁾	Current consumption (internal) 3.5 mA
			Voltage via power jumper contacts DC 24 V (-25 % ... +30 %)
			Type of load resistive, inductive, lamps
			Switching rate _{max.} 5 kHz (750-501)
			2.5 kHz (750-502)
			Output current 0.5 A (750-501)
			2.0 A (750-502)
			Short-circuit limitation _{typ. P_{wm}} 35 A (44 A peak) (750-502)
			Inductiv load switch-off energy dissipation _{W_{max.}} 0.5 J (750-501)
			1.7 J (750-502)
			$L_{max} = 2 \times W_{max.} / I^2$
			Isolation 500 V system / supply
			Current consumption _{typ. (field side)} 15 mA / module + load
			Internal bit width 2 bits
General specifications			
Operating temperature	0 °C ... +55 °C		
Wire connection CAGE CLAMP®	0.08 mm² ... 2.5 mm²; AWG 28 ... 14		
	8 ... 9 mm / 0.33 in stripped length		
Dimensions (mm) W x H x L	12 x 64* x 100		
	* from upper edge of 35 DIN rail		
Weight	ca 50 g (750-501), ca 55 g (750-502)		
Storage temperature	-25 °C ... +85 °C		
Relative air humidity	95 % no condensation		
Vibration and shock resistance	acc. to IEC 60068-2-6		
	acc. to IEC 60068-2-27		
Degree of protection	IP 20		
EMC CE - Immunity to interference	acc. to EN 50082-2 (1996)		
EMC CE - Emission of interference	acc. to EN 50081-1 (1993)		
EMC marine applications - Immunity to interf.	acc. to Germanischer Lloyd (1997)		
EMC marine applications - Emission of interf.	acc. to Germanischer Lloyd (1997)		
Approvals			
UL and marine applications	see pages 1.10 ... 1.13		
CE	II 3 G EEx nA II T4, Class I Div2 ABCD T4A		
Conformity marking	CE		
Accessories			
	Item-No.	Pack.-unit pcs	
	Miniature WSB quick marking system		
	plain 248-501	5	
	with marking see pages 1.174 ... 1.175		

isolated outputs, 2 changeover contacts

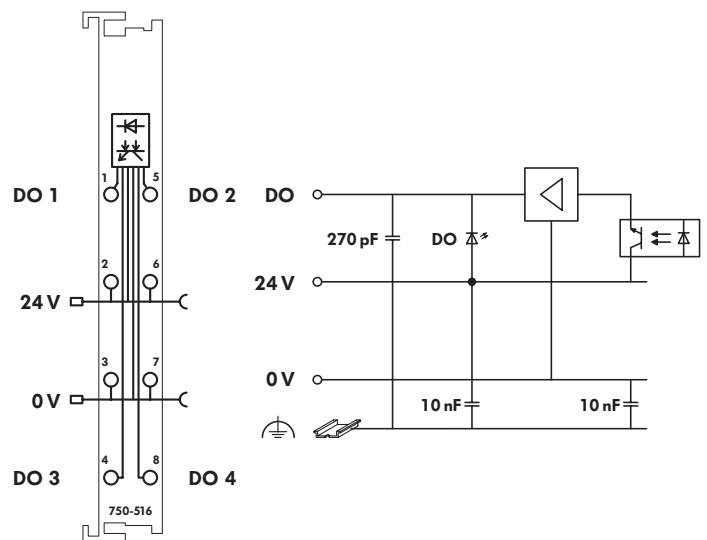
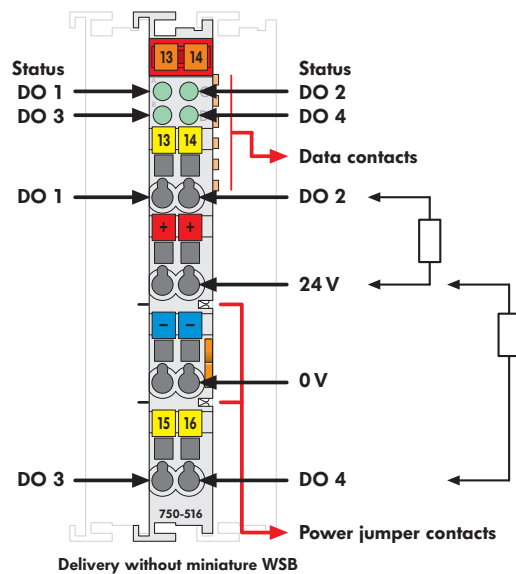


The module is a 2-channel device and actuators with a ground (earth) wire may be directly connected to the module.

E-Mail: info@wago.com
www.wago.com

4-Channel Digital Output Module DC 24 V

short-circuit-protected; low-side switching



The connected load is switched via the digital output from the control system.

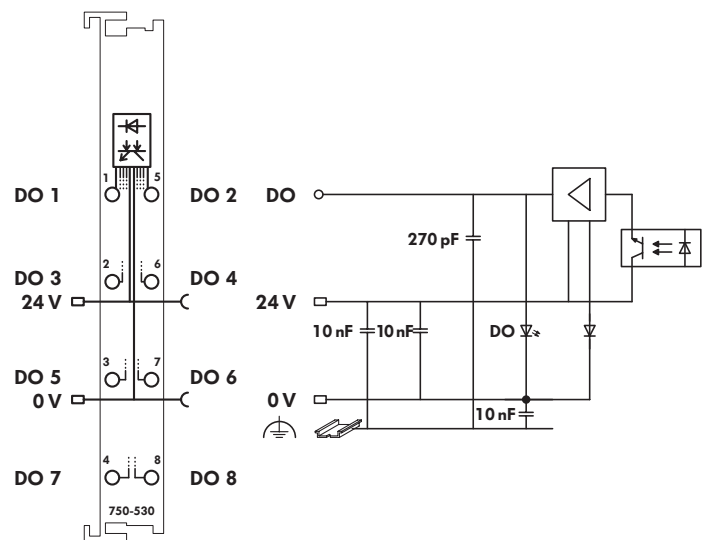
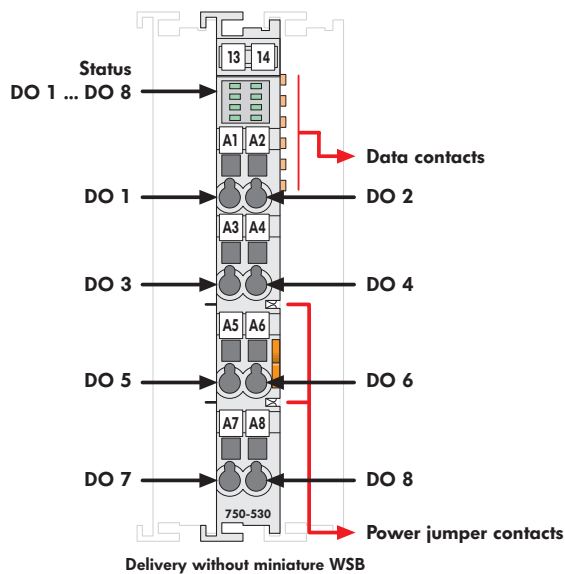
All outputs are electronically short-circuit-protected.

The module is a 4-channel, 2-conductor device. Each output is electrically isolated from the bus by use of optocouplers.

Description	Item-No.	Pack.-unit pcs	Technical Data
4DO 24V DC 0.5A/ Low-Side-Switch	750-516	1	No. of outputs 4
			Current consumption (internal) 7 mA
			Voltage via power jumper contacts DC 24 V (-15 % ... +20 %)
			Type of load resistive, inductive, lamps
			Switching rate f_{max} 5 kHz
			Output current 0.5 A short-circuit-protected
			Inductiv load switch-off energy dissipation W_{max} 0.55 J
			$L_{max} = 2 \times W_{max} / I^2$
			Isolation 500 V system / supply
			Current consumption I_{typ} (field side) 30 mA / module + load
			Internal bit width 4 bits
General specifications			
Operating temperature	0°C ... +55°C		
Wire connection CAGE CLAMP®	0.08 mm² ... 2.5 mm²; AWG 28 ... 14		
	8 ... 9 mm / 0.33 in stripped length		
Dimensions (mm) W x H x L	12 x 64* x 100		
	* from upper edge of 35 DIN rail		
Weight	ca 50 g		
Storage temperature	-25°C ... +85°C		
Relative air humidity	95% no condensation		
Vibration and shock resistance	acc. to IEC 60068-2-6		
	acc. to IEC 60068-2-27		
Degree of protection	IP 20		
EMC CE - Immunity to interference	acc. to EN 50082-2 (1996)		
EMC CE - Emission of interference	acc. to EN 50081-1 (1993)		
Approvals			
	see pages 1.10 ... 1.13		
	II 3 GD EEx nA II T4, Class I Div2 ABCD T4A		
Conformity marking	CE		
Accessories			
	Item-No.	Pack.-unit pcs	
	Miniature WSB quick marking system		
	plain 248-501	5	
	with marking	see pages 1.174 ... 1.175	

8-Channel Digital Output Module DC 24 V

short-circuit-protected; high-side switching



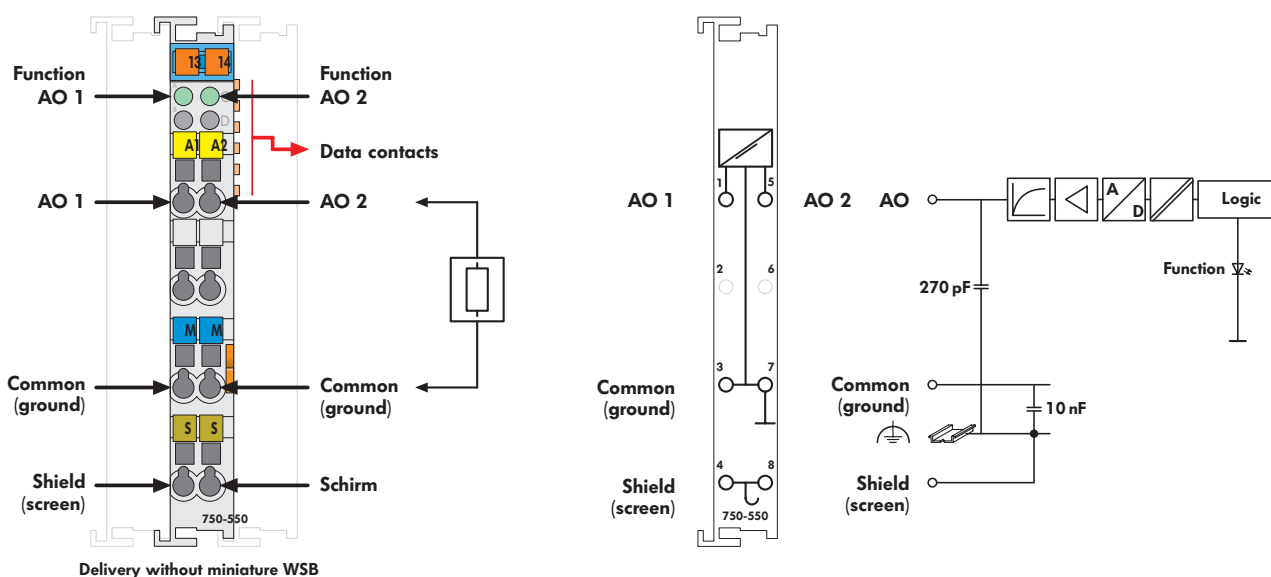
The digital output modules provide 8 channels maintaining a width of only 12mm.

The connected load is switched via the digital output from the control system.

All outputs are electronically short-circuit-protected.

The module is a 4-channel, 2-conductor device. Each output is electrically isolated from the bus by use of optocouplers.

Description	Item-No.	Pack.-unit pcs	Technical Data
8DO 24V DC 0.5A	750-530	10 ¹⁾	No. of outputs 8
			Current consumption (internal) 25 mA
			Voltage via power jumper contacts DC 24 V (-15 % ... +20 %)
			Type of load resistive, inductive, lamps
			Switching rate _{max} 2 kHz
			Output current 0.5 A short-circuit-protected
			Inductive load switch-off energy dissipation W_{max} 0.9 J
			$L_{max} = 2 \times W_{max} / I^2$
			Isolation 500 V system / supply
			Current consumption _{typ.} (field side) 15 mA / module + load
			Internal data size 8 bits
¹⁾ Also available individually			
General specifications			
Operating temperature	0 °C ... +55 °C		
Wire connection CAGE CLAMP®	0.08 mm² ... 2.5 mm²; AWG 28 ... 14		
	8 ... 9 mm / 0.33 in stripped length		
Dimensions (mm) W x H x L	12 x 64* x 100		
	* from upper edge of 35 DIN rail		
Weight	ca 50 g		
Storage temperature	-25 °C ... +85 °C		
Relative air humidity	95 % no condensation		
Vibration and shock resistance	acc. to IEC 60068-2-6		
	acc. to IEC 60068-2-27		
Degree of protection	IP 20		
EMC CE -Immunity to interference	acc. to EN 50082-2 (1996)		
EMC CE -Emission of interference	acc. to EN 50081-1 (1993)		
Approvals			
cULus	see pages 1.10 ... 1.13		
Ex	II 3 GD EEx nA II T4, Class I Div2 ABCD T4A		
Conformity marking	CE		
Accessories			
	Item-No.	Pack.-unit pcs	
	Miniature WSB quick marking system		
	plain	248-501	5
	with marking	see pages 1.174 ... 1.175	

2-Channel Analog Output Module 0-10 V / ± 10 V

The analog output module creates a standardized signal of 0-10 V or ± 10 V.

The output signal is electrically isolated and will be transmitted with a resolution of 12 bits.

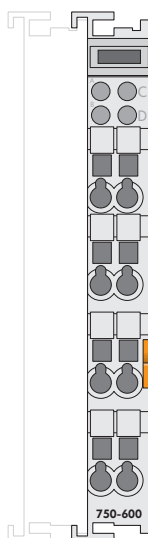
Outputs are short circuit protected.

The internal system supply is used for the power supply of the module.

The output channels have one common ground potential.

Description	Item-No.	Pack.-unit pcs	Technical Data
2AO 0-10 V DC	750-550	10 ¹⁾	No. of outputs 2
2AO ± 10 V DC	750-556	10 ¹⁾	Current consumption (internal) 65 mA
2AO 0-10 V DC/S5 ²⁾	750-550/000-200	1	Voltage supply via system voltage DC / DC
2AO ± 10 V DC/S5 ²⁾	750-556/000-200	1	Signal voltage 0 V ... 10 V (750-550) ± 10 V (750-556)
¹⁾ Also available individually			Load impedance > 5 k Ω
²⁾ Data format for S5 control with FB 251.			Resolution 12 bits
General specifications			Conversion time ca 2 ms
Operating temperature	0°C ... +55°C		Measuring error 25°C < ± 0.1 % of the full scale value
Wire connection CAGE CLAMP®	0.08 mm² ... 2.5 mm²; AWG 28 ... 14		Temperature coefficient < ± 0.01 % / K of the full scale value
	8 ... 9 mm / 0.33 in stripped length		Isolation 500 V system / supply
Dimensions (mm) W x H x L	12 x 64* x 100		Bit width 2 x 16 bits data
	* from upper edge of 35 DIN rail		2 x 8 bits control / status (option)
Weight	ca 55 g		
Storage temperature	-25°C ... +85°C		
Relative air humidity	95% no condensation		
Vibration and shock resistance	acc. to IEC 60068-2-6 acc. to IEC 60068-2-27		
Degree of protection	IP 20		
EMC CE - Immunity to interference	acc. to EN 50082-2 (1996)		
EMC CE - Emission of interference	acc. to EN 50081-1 (1993)		
EMC marine applications - Immunity to interf.	acc. to Germanischer Lloyd (1997)		
EMC marine applications - Emission of interf.	acc. to Germanischer Lloyd (1997)		
Approvals			
UL and marine applications	see pages 1.10 ... 1.13		
CE	II 3 G EEx nA II T4, Class I Div2 ABCD T4A		
Conformity marking	CE		
Accessories			
	Item-No.	Pack.-unit pcs	
	Miniature WSB quick marking system		
	plain 248-501	5	
	with marking see pages 1.174 ... 1.175		

End Module



Delivery without miniature WSB

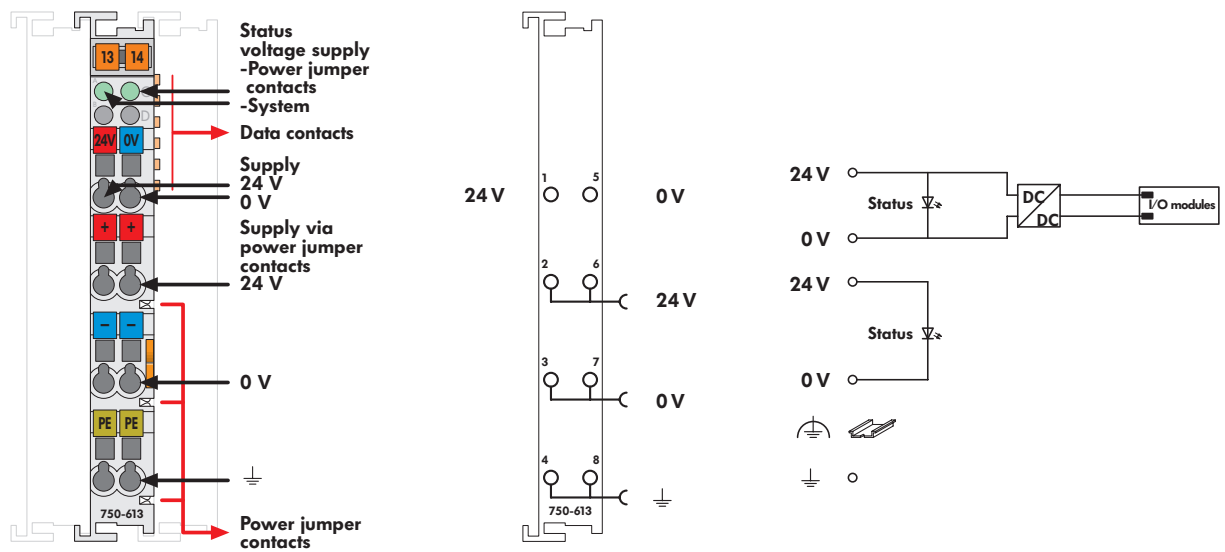
After the fieldbus node is assembled with the correct buscoupler and selected I/O modules, the end module is snapped onto the assembly.

It completes the internal data circuit and ensures correct data flow.

One is required for each buscoupler.

Description	Item-No.	Pack.-unit pcs	
End Module	750-600	10 ¹⁾	
¹⁾ Also available individually			
General specifications			
Operating temperature	0°C ... +55°C		
Wire connection CAGE CLAMP®	0.08 mm² ... 2.5 mm²; AWG 28 ... 14		
	8 ... 9 mm / 0.33 in stripped length		
Dimensions (mm) W x H x L	12 x 64* x 100		
	* from upper edge of 35 DIN rail		
Weight	ca 35 g		
Storage temperature	-25°C ... +85°C		
Relative air humidity	95% no condensation		
Vibration and shock resistance	acc. to IEC 60068-2-6		
	acc. to IEC 60068-2-27		
Degree of protection	IP 20		
EMC CE - Immunity to interference	acc. to EN 50082-2 (1996)		
EMC CE - Emission of interference	acc. to EN 50081-1 (1993)		
EMC marine applications - Immunity to interf.	acc. to Germanischer Lloyd (1997)		
EMC marine applications - Emission of interf.	acc. to Germanischer Lloyd (1997)		
Approvals			
eULas and marine applications	see pages 1.10 ... 1.13		
Ex	II 3 G EEx nA II T4, Class I Div2 ABCD T4A		
Conformity marking	CE		
Accessories			
	Item-No.	Pack.-unit pcs	
	Miniature WSB quick marking system		
	plain	248-501	5
	with marking	see pages 1.174 ... 1.175	

Internal System Supply Module DC 24 V



The internal system supply module increases the current supply for the internal 5 V DC system by 2 A.
 If the the internal current consumption of all modules is higher than 2 A, an additional supply module must be added.
 The supply module also supplies field side power to the adjoining modules via the power jumper contacts.

Description	Item-No.	Pack.-unit pcs	Technical Data
24V DC Bus Power Supply	750-613	10 ¹⁾	Voltage supply DC 24 V (-25 % ... +30 %) Input current _{max.} 500 mA Total current for I/O modules 2000 mA Voltage via power jumper contacts _{max.} DC 24 V (-25 % ... +30 %) Current via power jumper contacts _{max.} DC 10 A
¹⁾ Also available individually			
General specifications			
Operating temperature	0 °C ... +55 °C		
Wire connection CAGE CLAMP®	0.08 mm² ... 2.5 mm²; AWG 28 ... 14		
	8 ... 9 mm / 0.33 in stripped length		
Dimensions (mm) W x H x L	12 x 64* x 100		
	* from upper edge of 35 DIN rail		
Weight	ca 60 g		
Storage temperature	-25 °C ... +85 °C		
Relative air humidity	95 % no condensation		
Vibration and shock resistance	acc. to IEC 60068-2-6 acc. to IEC 60068-2-27		
Degree of protection	IP 20		
EMC CE - Immunity to interference	acc. to EN 50082-2 (1996)		
EMC CE - Emission of interference	acc. to EN 50081-1 (1993)		
EMC marine applications - Immunity to interf.	acc. to Germanischer Lloyd (1997)		
EMC marine applications - Emission of interf.	acc. to Germanischer Lloyd (1997)		
Approvals			
UL and marine applications	see pages 1.10 ... 1.13		
CE	II 3 G EEx nA II T4, Class I Div2 ABCD T4A		
Conformity marking	CE		
Accessories			
	Item-No.	Pack.-unit pcs	
	Miniature WSB quick marking system		
	plain	248-501	5
	with marking	see pages 1.174 ... 1.175	