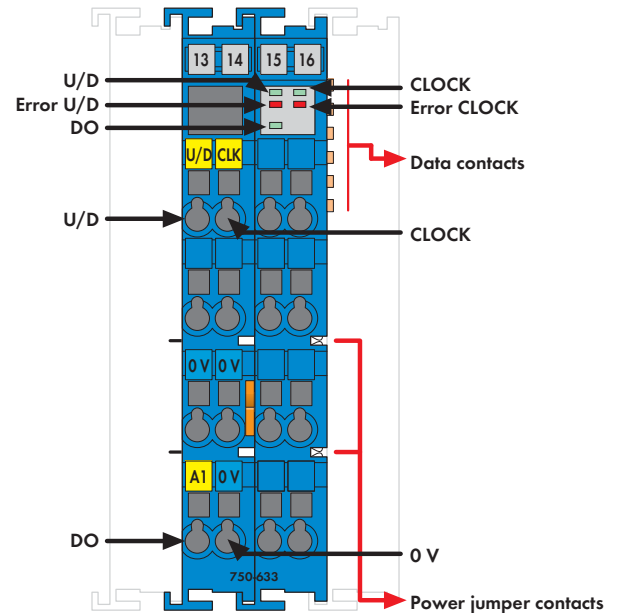


1 Up/Down Counter, Ex i

324



Delivered without miniature WSB markers

The 750-633 Counter records binary pulse signals with NAMUR-compliant levels and transmits the counter state to the fieldbus system. The U/D input allows either Up or Down counting. Counter and digital output (DO) can be set or reset via control byte. The output is short-circuit proof.


LED indicators:

- Green LED (Up/Down + CLK + DO status)
- Red LED (Up/Down + CLK error status)

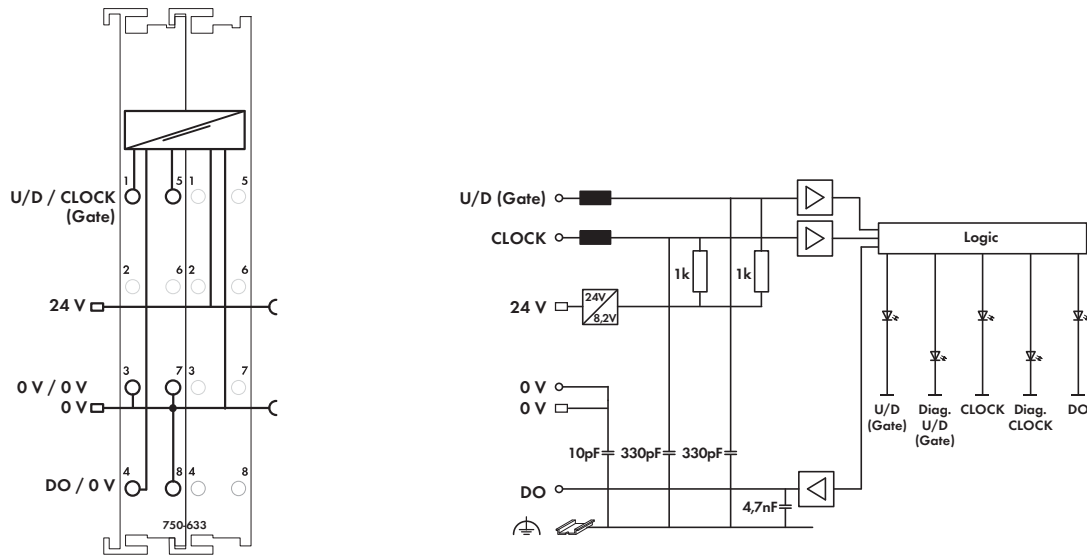
Field and system levels are electrically isolated.

Note: Only use the up/down counter in connection with the 24VDC Ex i supply module (note the power supply instructions on page 23)!

General information (e.g., installation regulations) on explosion protection is available in the WAGO-I/O-SYSTEM 750 manuals!

Description	Item No.	Pack. Unit
Up/Down Counter, Ex i	750-633	1
Accessories		
Miniature WSB Quick marking system		
 plain	248-501	5
with marking	see pages 352 ... 353	

Technical Data	
No. of counters	1
No. of outputs	1
Current consumption typ. (internal)	25 mA
Voltage via power jumper contacts	Supply via 24 V DC Ex i supply module
Counter	
Signal current (0)	≤ 1.2 mA
Signal current (1)	≥ 2.1 mA
Input filter	10 μs
Switching hysteresis	0.2 mA
Input resistance	1 kOhm
Short-circuit current	8,2 mA (+/- 5 %)
Short-circuit monitoring	> 6.4 mA
Line break monitoring	≤ 0.3 mA
Switching frequency	20 kHz - 50 kHz
Counter depth	32 bits
Output	
Output data	24 VDC, Ri = 285 Ω (+/- 5 %)
Open-circuit voltage	24 VDC
Current consumption typ. (field side)	31 mA + sensor load + actuator load
Power consumption P (max.)	2.2 W
	(sensor load: 8.2 mA
	+ actuator load: 45 mA)
Power loss P _v	1.7 W
	(sensor load: 8.2 mA
	+ actuator load: 45 mA)
Isolation (peak value)	375 V system/supply
Bit width	1 x 32-bit data,
	1 x 8-bit status/diagnostics



Technical Data

Wire connection	CAGE CLAMP®
Cross sections	0.08 mm ² ... 2.5 mm ² / AWG 28 ... 14
Stripped lengths	8 ... 9 mm / 0.33 in
Width	24 mm
Weight	85 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)
EMC: marine applications	
- immunity to interference	pending
EMC: marine applications	
- emission of interference	pending

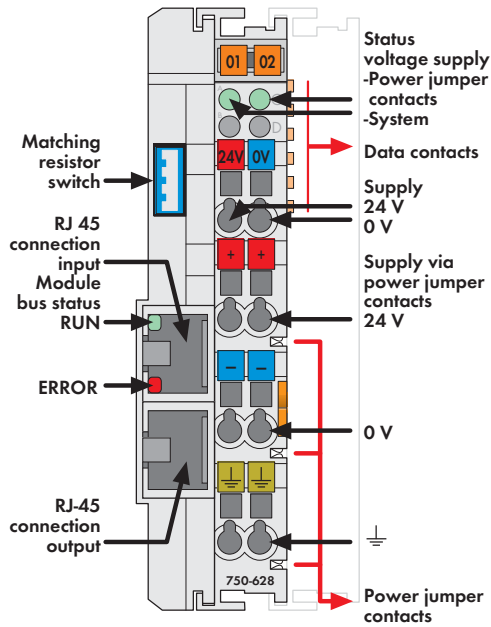
General Specifications

Explosion Protection	
Ex directive	EN 60079-0:2006, EN 60079-11:2007, EN 60079-15:2005, EN 61241-0:2006, EN 61241-1:2004, EN 61241-11:2006
Electric circuit, safety relevant data	$V_0 = 12\text{ V}$; $I_0 = 13.3\text{ mA}$; $P_0 = 40\text{ mW}$; Characteristic: Linear
Intrinsically safe Ex ia IIC	$L_0 = 190\text{ mH}$; $C_0 = 1.4\text{ }\mu\text{F}$
Intrinsically safe Ex ia IIB	$L_0 = 600\text{ mH}$; $C_0 = 9\text{ }\mu\text{F}$
Intrinsically safe Ex ia I	$L_0 = 1\text{ H}$; $C_0 = 35\text{ }\mu\text{F}$
Intrinsically safe	without consideration of the simultaneousness; with consideration of the simultaneousness see manual

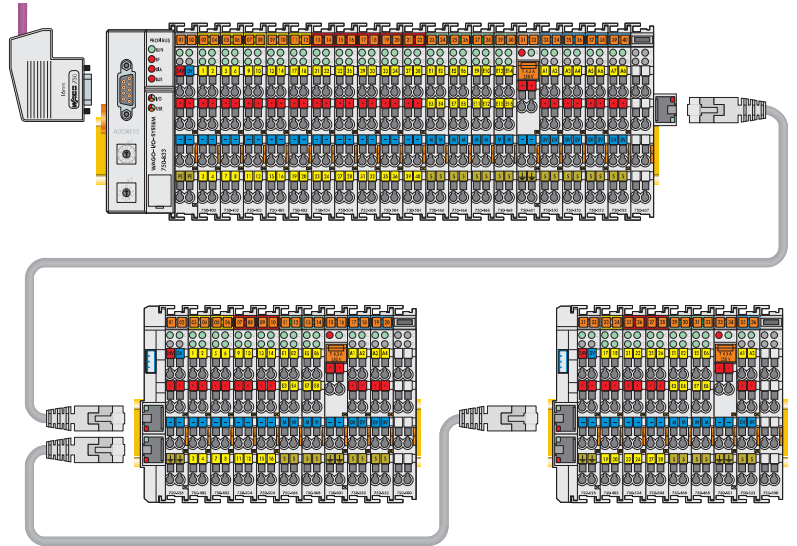
Standards, Guidelines and Approvals

EC EMC guideline	2004/108/EG
EC low voltage guideline	2006/95/EG
Conformity marking	CE
Ⓢ TÜV 07 ATEX 554086 X	I (M2) [Ex ia] I II 3 (1) G Ex nA [ia Ga] IIC T4 Gc II 3 (1) D Ex t [ia Da] IIIC T135°C Dc
Ⓢ TUN 09.0001X	[Ex ia] I Ex nA [ia Ga] IIC T4 Gc Ex t [ia Da] IIIC T135°C Dc
Ⓢ ANSI/ISA 12.12.01	pending
Ⓢ UL 508	pending
Shipbuilding	pending

Internal Data Bus Extension Coupler Module



Delivered without miniature WSB markers




The coupler module for the internal data bus extension module 750-628 replaces the fieldbus coupler/controller at an I/O terminal block. It is also the mating piece for the end module 750-627. Plug the connecting cable into the top RJ-45 socket to establish the logical link to the fieldbus coupler/controller via end module 750-627. The extension is completely transparent for the fieldbus coupler/controller. All of the functions of the I/O module system are retained without any changes. A further extension to the system is provided by the bottom RJ-45 socket. This enables the entire system to be extended by 10 stages.

The supply voltage for the field side and the internal electronics can be input separately. Both levels are electrically isolated from each other. Two diagnostic LEDs give information about the supply voltage for both the internal and field side. Two LEDs in the input socket indicate fault-free communication with the bus coupler. The extension module can be used as the last coupler module in the system (switch on matching resistor) or as a bridge between two I/O module assemblies.

Installation note Attention:

To ensure safe, reliable operating states when using the internal data bus extension 750-627/-628 these states must be registered prior to startup with the following couplers or PLCs (refer to manual for supported couplers/PLCs). You must use the "WAGO Extension Setting" software for this (download: www.wago.com). Please note that only one terminating resistor may be activated in the whole system. Please complete the manufacturing number matrix on the right-hand side of the couplers when updating the firmware and internal operating parameters.

Description	Item No.	Pack. Unit
Internal Data Bus Extension Coupler Module	750-628	1
Accessories	Item No.	Pack. Unit
Miniature WSB Quick marking system		
 plain	248-501	5
with marking	see pages 352 ... 353	
Approvals	Also see "Approvals Overview" in Section 1	
Conformity marking	CE	
Shipbuilding	GL	
UL 508		

Technical Data	
Max. no. of I/O modules	64 (in the whole system)
Buscoupler connection	2 x RJ-45 socket (input + output)
Distance	5 m (10 m see manual), (end module and coupler or coupler and coupler)
Transmission medium	shielded copper wire (ETHERNET patch cable) 4 x 2 x 0.25 mm ² , twisted pair, double shielding
Power supply	24 V DC (-15 % ... +20 %)
Max. input current (24 V)	200 mA
Efficiency of the power supply	76 %
Inrush current	2.5 x continuous current
Internal current consumption (5 V)	150 mA
Total current for I/O modules (5 V)	400 mA
Voltage via power jumper contacts	24 V DC (-15 % ... +20 %)
Current via power jumper contacts (max.)	DC10 A
Isolation	500 V system/supply
Wire connection	CAGE CLAMP®
Cross sections	0.08 mm ² ... 2.5 mm ² / AWG 28 ... 14
Stripped lengths	8 ... 9 mm / 0.33 in
Width	25 mm
Weight	74.5 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)