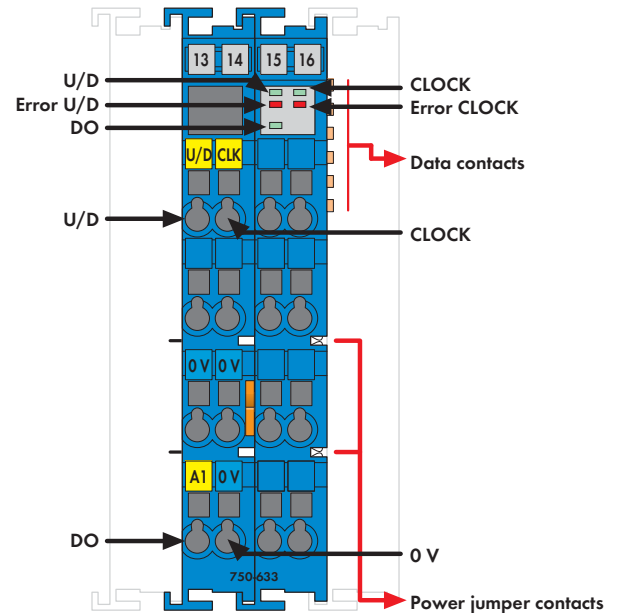


# 1 Up/Down Counter, Ex i

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)

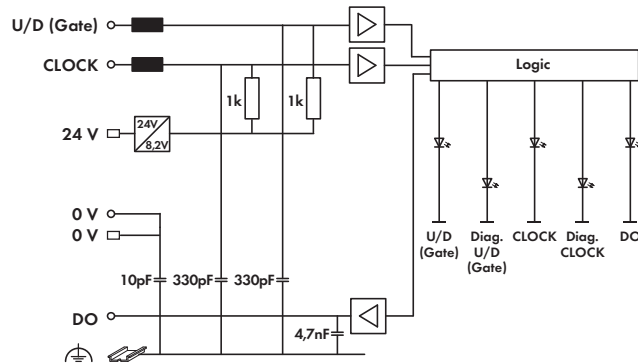
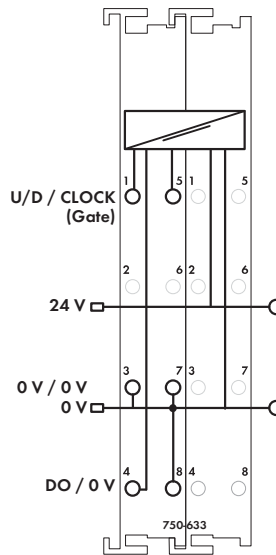
Field and system levels are electrically isolated.

**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
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 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
<b>Counter</b>	
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
<b>Output</b>	
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 <sub>v</sub>	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 mm² ... 2.5 mm² / AWG 28 ... 14
Stripped lengths	8 ... 9 mm / 0.33 in
Width	24 mm
Weight	85 g
EMC: <b>CE</b> - immunity to interference	acc. to EN 61000-6-2 (2005)
EMC: <b>CE</b> - 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	<b>CE</b>
Ⓢ 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

# Field Side Connection Module

24 V DC

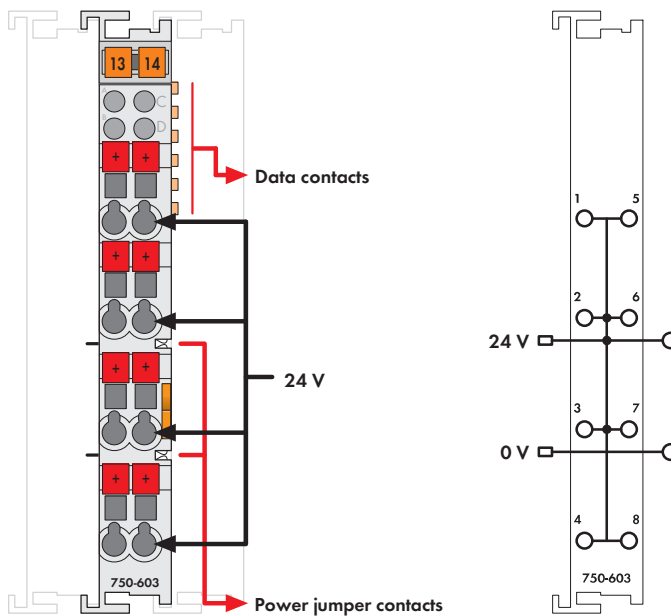



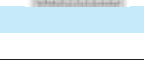


Fig. 750 Series/Technical data see page 24/Delivered without miniature WSB markers  
750/753 Series marking see pages 10 ... 11 / 12 ... 13

The field side connection module provides 24V power for the inputs of the 8-channel input module 750-430/-431, eliminating external terminal blocks.

The 24V supply and 0V potential are derived from the internal power jumper contacts of an adjacent upstream I/O module. A connection of the potentials to the downstream I/O modules is made automatically via the power jumper contacts when snapping the I/O modules together. The 24V power is available to all eight field side CAGE CLAMP® connections and the 0V potential is passed through without being used by the module.

Description	Item No.	Pack. Unit
Field Side Connection	750-603	1
Field Side Connection (without connector)	753-603	1
<b>Accessories</b>		
 753 Series Connectors	753-110	25
 Coding elements	753-150	100
<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	
Shipbuilding	ABS, DNV, GL, KR	
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	
Voltage via power jumper contacts (max.)	24 V DC (-25 % ... + 30 %)
Current via power jumper contacts (max.)	10 A DC
Wire connection	CAGE CLAMP®
Cross sections	0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14
Stripped lengths, 750/753 Series	8 ... 9 mm / 0.33 in 9 ... 10 mm / 0.37 in
Width	12 mm
Weight	48.5 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)
EMC: marine applications	
- immunity to interference	acc. to Germanischer Lloyd (2003)
EMC: marine applications	
- emission of interference	acc. to Germanischer Lloyd (2003)