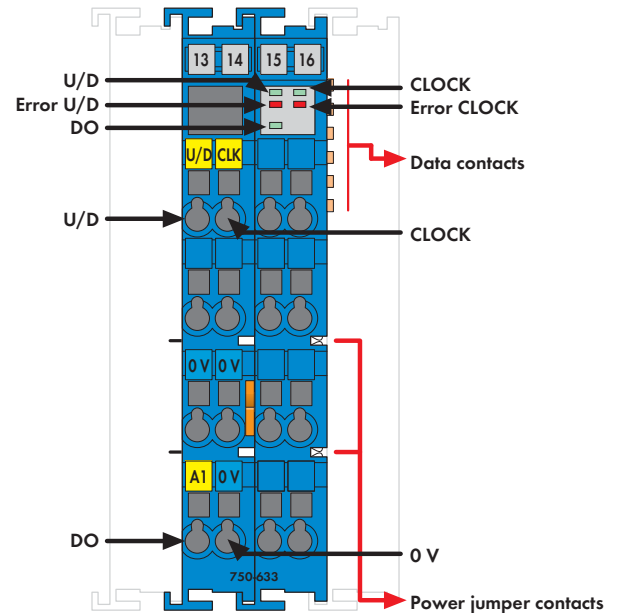


1 Up/Down Counter, Ex i

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)

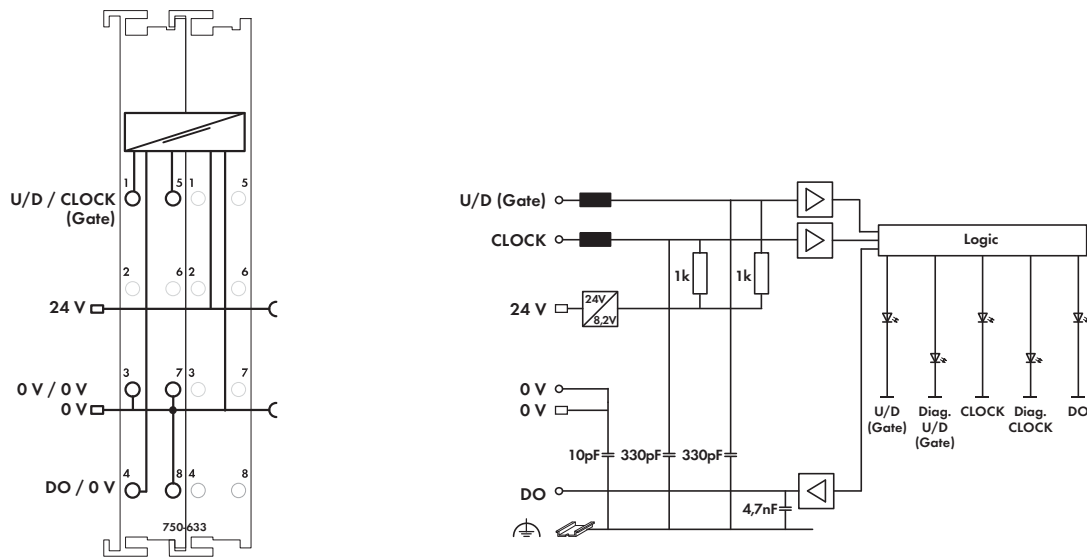
Field and system levels are electrically isolated.

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 kΩ
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 mm² ... 2.5 mm² / 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

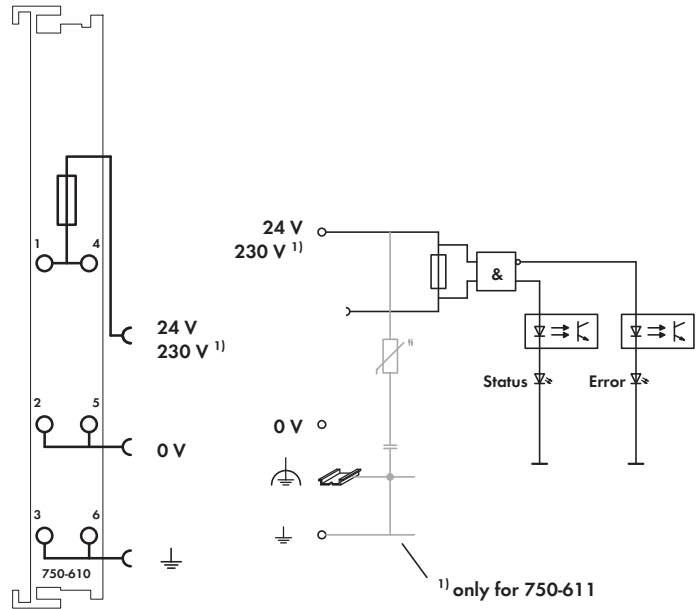
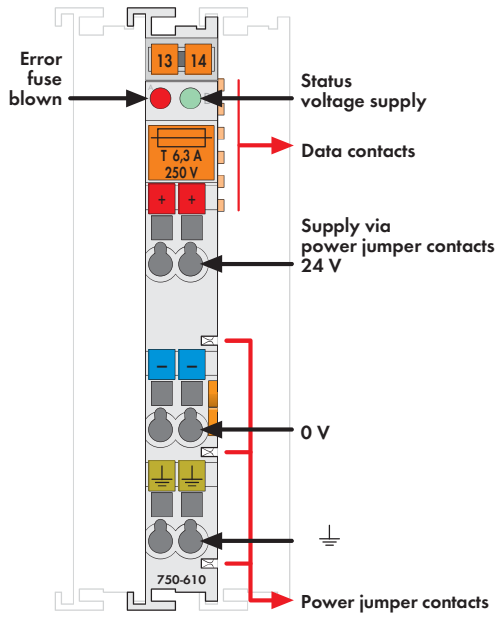
General Specifications

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

1 Supply Module 24 V DC / 230 V AC
with fuse carrier / diagnostics



Delivered without miniature WSB markers


The supply module provides the I/O modules with the corresponding supply potential.

The I/O module sends information about the status of the supply module to the fieldbus coupler through two input bits. One bit is for the status of the fuse. The other bit is for the status of the supply voltage.

The maximum current at the supply module is 6.3A. When configuring the system, it must be ensured that this total current is not exceeded. Should higher currents be necessary, intermediate supply modules must be added in the assembly.

This module is fuse-protected (5 x 20mm). The fuse can be changed quickly, with ease, from the retractable fuse carrier.

A blown fuse and the status of the supply voltage are indicated via LEDs.

Description	Item No.	Pack. Unit
24V DC Power Supply/Fuse/Diagn.	750-610	10 ¹⁾
230V AC Power Supply/Fuse/Diagn.	750-611	1
¹⁾ Also available individually		
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	ABS, BV, DNV, GL, KR, LR, NKK, PRS, RINA	
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 (750-610) 230 V AC (750-611)
Current via power jumper contacts (max.)	6.3 A DC
Current consumption (internal)	5 mA
Supply voltage detection level on	> 15 V DC (750-610) > 164 V AC (750-611)
Supply voltage detection level off	< 5 V DC (750-610) < 40 V AC (750-611)
Fuse	5 x 20; T 6.3 A (Fuse not included. Use UL recognized fuses only!)
Internal bit width	2 bits
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	12 mm
Weight	51.5 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)