

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. A limit value can be set at which the DO output is activated when this value is exceeded. The output is short-circuit proof.

Operating modes:

- Up counter with enable input
- Up/Down counter
- Frequency counter
- Peak-time counter

Field and system levels are electrically isolated.

LED indicators:

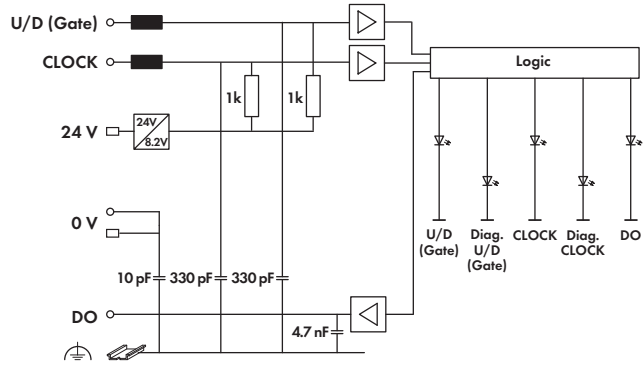
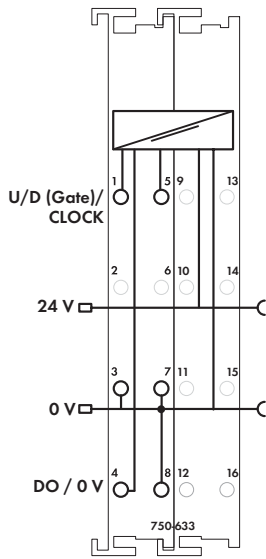
- Green LED (Up/Down + CLK + DO status)
- Red LED (Up/Down + CLK error status)

**Note:** The up/down counter must only be operated via Ex i 24VDC power supply!

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	Item No.	Pack. Unit
<b>Miniature WSB Quick marking system</b>		
plain	248-501	5
with marking	see Section 11	

Technical Data	
No. of counters	1
No. of outputs	1
Current consumption, system voltage typ. (5 VDC)	25 mA
Voltage via power jumper contacts	24 V DC (provided via Ex-i supply $U_O = \text{max. } 27.3 \text{ V}$ )
<b>Counter U/D (Gate), CLK</b>	
Sensor supply $V_V$	8.2 VDC
Signal current (0)	$\leq 1.2 \text{ mA}$
Signal current (1)	$\geq 2.1 \text{ mA}$
Input filter	10 $\mu\text{s}$
Switching hysteresis	0.2 mA
Open-circuit voltage	8.2 VDC
Input resistance	1 kOhm
Short-circuit current	8.2 mA (+/- 5 %)
Switching frequency	20 Hz ... 50 kHz
Counter depth	32 bits
<b>Output:</b>	
Open-circuit voltage	24 V DC
Output voltage	24 V DC
Internal resistance $R_i$	285 $\Omega$
Current consumption, power jumper contact typ. (24 VDC)	
Power consumption $P_{max}$	31 mA + sensor load + actuator load 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)	$U_M = 375 \text{ V system/supply}$
Bit width	1 x 32-bit data, 1 x 8-bit status/diagnostics



### Technical Data

Wire connection	CAGE CLAMP <sup>®</sup>
Cross sections	0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Width	24 mm
Weight	89.1 g
EMC immunity of interference	acc. to EN 61000-6-2, marine applications
EMC emission of interference	acc. to EN 61000-6-3, marine applications

### Explosion Protection

Safety Data - Input	$V_0 = 12 \text{ V}$ ; $I_0 = 13.5 \text{ mA}$ ; $P_0 = 40.5 \text{ mW}$ ; Characteristic: Linear
Reactances, inputs, Ex ia IIC	$L_0 = 100 \text{ mH}$ ; $C_0 = 1,4 \mu\text{F}$
Reactances, inputs, Ex ia IIB	$L_0 = 100 \text{ mH}$ ; $C_0 = 9 \mu\text{F}$
Reactances, inputs, Ex ia IIA	$L_0 = 100 \text{ mH}$ ; $C_0 = 36 \mu\text{F}$
Reactances, inputs, Ex ia I	$L_0 = 100 \text{ mH}$ ; $C_0 = 38 \mu\text{F}$
Safety data - output	$U_0 = 27.3 \text{ V}$ ; $I_0 = 103 \text{ mA}$ ; $P_0 = 703 \text{ mW}$ ; linear characteristic curve
Reactances, output, Ex ia IIC	$L_0 = 0,5 \text{ mH}$ ; $C_0 = 88 \text{ nF}$
Reactances, output, Ex ia IIB	$L_0 = 10 \text{ mH}$ ; $C_0 = 683 \text{ nF}$
Reactances, output, Ex ia IIA	$L_0 = 18 \text{ mH}$ ; $C_0 = 2,2 \mu\text{F}$
Reactances, output, Ex ia I	$L_0 = 26 \text{ mH}$ ; $C_0 = 3,6 \mu\text{F}$
Reactances	(The above-listed ratings do not account for the coincidental occurrence of capacitances and inductances. For ratings taking the coincidental occurrence of capacitances and inductances into account, see manual)

### Standards, Guidelines and Approvals

Conformity marking	CE
ATEX Guideline 94 / 9 / EC	EN 60079-0, EN 60079-11, EN 60079-15, EN 60079-26, EN 60079-31
EC EMC guideline	2004/108/EG
Korea Certification	
Marine applications	GL
UL 508	
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4
TÜV 12 ATEX 106032 X	I M2 (M1) Ex d [ia Ma] I Mb, II 3 (1) G Ex nA [ia Ga] IIC T4 Gc, II 3 (1) D Ex tc [ia Da] IIIC T135 °C Dc
	Permissible ambient temperature 0 °C ... +60 °C
IECEx TUN 12.0039 X	Ex d [ia Ma] I Mb, Ex nA [ia Ga] IIC T4 Gc, Ex tc [ia Da] IIIC T135 °C Dc
	Permissible ambient temperature 0 °C ... +60 °C