

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)

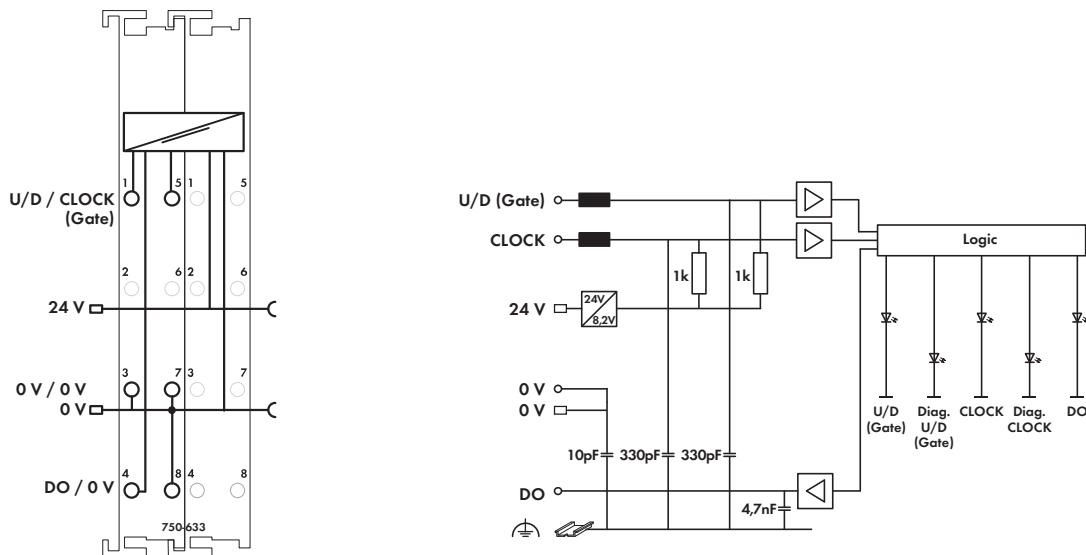
Field and system levels are electrically isolated.

**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, $R_i = 285 \Omega$ (+/- 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	$V_o = 12 \text{ V}$ ; $I_o = 13.3 \text{ mA}$ ; $P_o = 40 \text{ mW}$ ; Characteristic: Linear
Intrinsically safe Ex ia IIC	$L_o = 190 \text{ mH}$ ; $C_o = 1.4 \mu\text{F}$
Intrinsically safe Ex ia IIB	$L_o = 600 \text{ mH}$ ; $C_o = 9 \mu\text{F}$
Intrinsically safe Ex ia I	$L_o = 1 \text{ H}$ ; $C_o = 35 \mu\text{F}$
Intrinsically safe	without consideration of the simultaneity; with consideration of the simultaneity 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

# Supply Module 24 V DC / 230 V AC/DC

passive

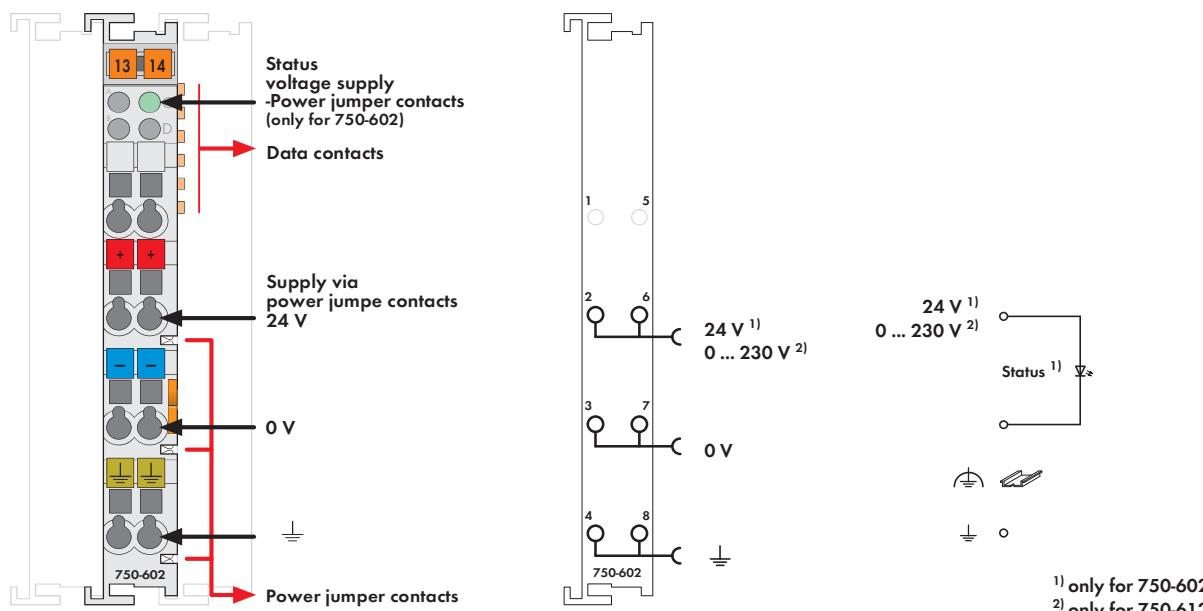


Fig. 750 Series/Technical data see page 24/Delivered without miniature WSB markers  
750/753 Series marking see pages 10 ... 11 / 12 ... 13

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

The maximum current at the supply module is 10A. 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.

Description	Item No.	Pack. Unit
24V DC Power Supply	750-602	10 <sup>1)</sup>
24V DC Power Supply/T (Operating temperature -20 °C ... +60 °C)	750-602/025-000	1
0-230V AC/DC Power Supply	750-612	10 <sup>1)</sup>
24V DC Power Supply (without connector)	753-602	1
0-230V AC/DC Power Supply (without connector)	753-612	1

<sup>1)</sup> Also available individually

Accessories	Item No.	Pack. Unit
753 Series Connectors	753-110	25
Coding elements	753-150	100
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 (versions upon ④ UL 508	ABS, BV, DNV, GL, KR, LR, NKK, PRS, RINA
④ ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4 750-602, -612
④ EN 60079-0, -15	I M2 / II 3 GD Ex nA IICT4 750-602, -612
EN 61241-0, -1	

Technical Data	
Voltage via power jumper contacts (max.)	24 V DC (750-602 / 753-602) 0 V ... 230 V AC/DC (750-612 / 753-612)
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	8 ... 9 mm / 0.33 in 9 ... 10 mm / 0.37 in
Width	12 mm
Weight	44.5 g (750-602) 51.5 g (750-612)
EMC: CE - immunity to interference	acc. to EN 61000-6-2 (2005) (750-602) acc. to EN 61000-6-2 (2001) (750-612)
EMC: CE - emission of interference	acc. to EN 61000-6-4 (2007)
EMC: marine applications	
- immunity to interference	acc. to Germanischer Lloyd (2003)
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- emission of interference	acc. to Germanischer Lloyd (2003)