

Pneumatic Totalising Counter Instructions

For 50.650/50.660/50.670/57.655.EX/57.660.EX/57.670.EX

Smooth functionality and reliable counting can only be guaranteed if the instructions within this document are strictly followed.

Pneumatic totalising counters register incoming air pulses on a 6 or 8 digit display, used where an accumulating count value is required. Compressed air pulses are generated from mechanical, manual, electrical, pneumatic valves and sensors within a system.

Installation & Mounting

50.650/50.670/50.655.EX/57.670.EX versions are intended to be built into the front panel of equipment. Panel cut-out: 52mm x 27mm. Distance between holes: 38mm and fastened with two countersunk M4 screws provided. Please ensure that the panel cut-out is large enough that the counter is not placed under mechanical tension or strain when built in.

50.660/57.660.EX versions are intended to be surface mounted on a vertical plane with the manual reset button positioned at top. There are three M3 pre-drilled holes to secure the product to a surface.

Pneumatic Connections

Totalising counters are provided with threaded M5 or 4mm push-in rapid fit connections. Input Z (input for count pulses) and Y (input for the reset pulse). Please ensure a tight seal is provided by fully inserting tubing and by tightening threads sufficiently providing a proper seal. We recommend the use of self-sealing fittings, this is a fitting that incorporates an NBR sealing ring. We do not recommend the use of thread sealing compounds.

Reset

If the counter has a reset function, pressure must be removed from the count input port completely before resetting to avoid jamming, miscounting or irreparable damage to the device.

Environment

Not suitable for external or harsh environments. Protect from corrosion. General advice is to house within an enclosure or control panel with suitable protection rating or use a protective cover. See accessories.

Air Quality

Clean, dry and oil free air to instrument quality standards. Please note that at low operating/ambient temperatures air filters alone will not be sufficient. Air dryers are recommended to achieve low moisture dew point.

Exhaust

Compressed air will exhaust from this device as part of the operating sequence. This could be sufficient volume and pressure to create risk or introduce problems within an enclosure.

Safety & Warnings

Only competent qualified persons should install, mount, attach hoses, initially operate, maintain, test and disassemble this product. Never disconnect power lines or service the device when the system is powered. This product should only be used for its intended purpose and within the limits and conditions as described. When cleaning or servicing the product, to avoid electrostatic discharges, use a damp anti-static cloth.

Pneumatic Totalising Counter Instructions Continued

Technical Data

Pressure range:	2 to 8 bar / 2 to 6 bar for ATEX versions.
Count frequency:	5Hz (non-pulse period must drop to 0.15 bar for a minimum of 12 ms).
Count pulse length:	Input port Z - 8 ms minimum.
Count interval length:	10 ms minimum before the next count pulse.
Reset pulse length:	Input port Y - 180 ms minimum. No pressure on port Z.
Reset interval:	50 ms before next count pulse input.
Reset frequency:	4Hz maximum.
IP rating:	IP40 when connected. IP55 when using a polycarbonate transparent cover.
Temperature range:	0°C to +60°C
Medium temperature:	Maximum 30°C (compressed air temperature)
Mechanical life:	30 x 10 ⁶
Display:	4mm digit height, white on black background
Reset:	Non-reset or manual button reset with pneumatic reset, see product selection.
Housing:	Plastic material

Product Selection

Order Code	Digits	Reset Option	Mounting	Connections	ATEX
50.650	8 digit	No reset	Panel mount	4mm push-in	No
50.660	6 digit	Pneumatic + manual	Surface mount	M5 threaded	No
50.670	6 digit	Pneumatic + manual	Panel mount	M5 threaded	No
57.655.EX	8 digit	No reset	Panel mount	M5 threaded	YES
57.660.EX	6 digit	Pneumatic + manual	Surface mount	M5 threaded	YES
57.670.EX	6 digit	Pneumatic + manual	Panel mount	M5 threaded	YES

Accessories

Order Code	Description	Compatibility
1405611	Hinged cover with rotary knob	Compatible with all counters shown except 50.660 and 57.660.EX surface mount versions.
1405612	Hinged cover with lock and key	
1405404	Flexible Vestolit cover with silver frame	
1405587	Flexible Vestolit cover with black frame	

ATEX

As well as standard counting devices which are intrinsically safe, we offer ATEX fully certified, CE-marked pneumatic counting products that comply with the ATEX directives for use within category M2 and group II, zones 1 and 21. See product selection.

ATEX counting products (57.655.EX, 57.660.EX, 57.670.EX) conform to the following standards:

Standard	Classification	Issued
EN ISO 80079-36	Ex II 2G Ex h IIB T4 Gb (0°C ≤ Ta ≤ +60°C)	2016
EN ISO 80079-37	Ex II 2D Ex h IIB T120°C Db (0°C ≤ Ta ≤ +60°C)	
	Ex I M2 Ex h I Mb (0°C < Ta < 60°C)	

Our declaration of conformity can be downloaded from <https://www.impulseautomation.co.uk/downloads>

Warning: ATEX products should never be used in Zone 0 or Zone 20, as defined in IEC 60079-10-1:2015 and IEC 60079-10-2:2015.

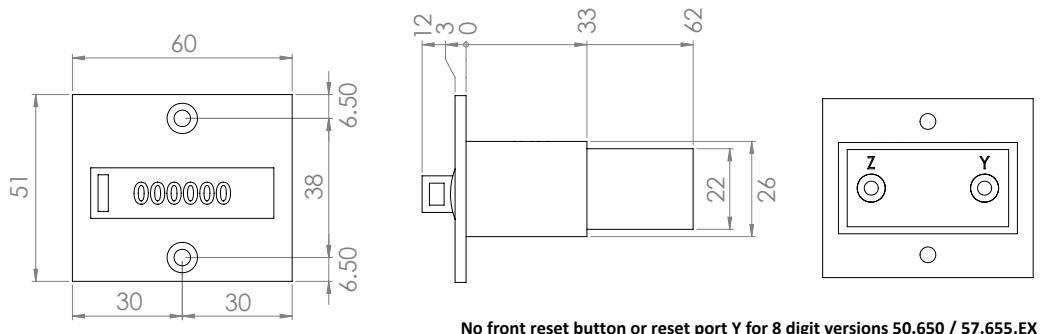
The system builder is responsible for ensuring that the final system meets any hazardous zone, EX or ATEX requirements.

Disclaimer

Impulse Automation Limited accepts no responsibility for the application of this product.

Instructions

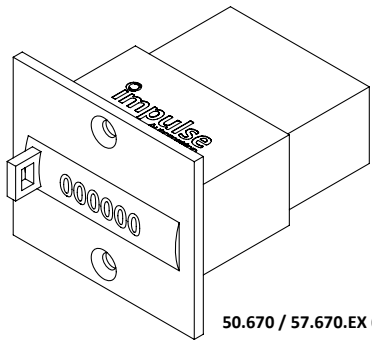
Pneumatic Totalising Counter Panel and Vertical Surface Mount + ATEX Models



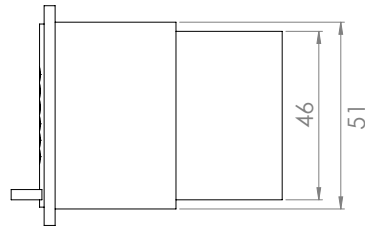
No front reset button or reset port Y for 8 digit versions 50.650 / 57.655.EX

50.650, 50.670, 57.655.EX, 57.670.EX

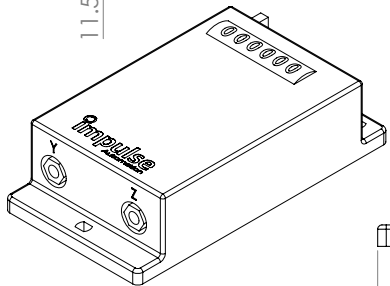
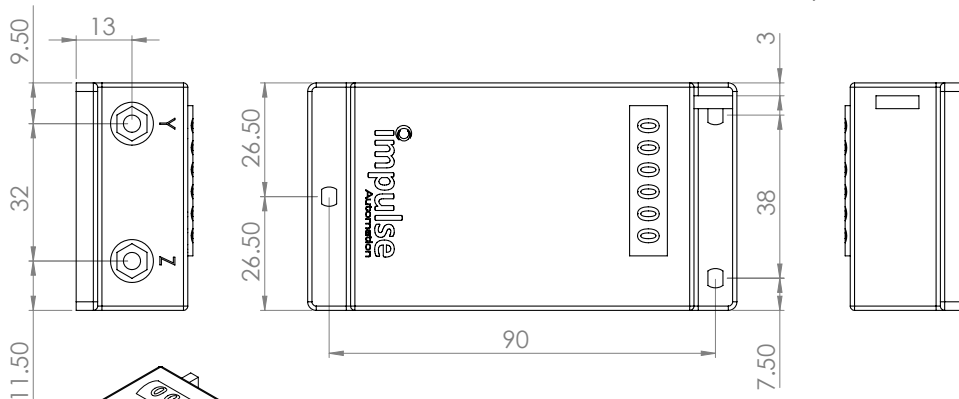
Pneumatic Totalising Counter Drawings



50.670 / 57.670.EX 6 digit picture shown.



50.660, 57.660.EX



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