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Rev. 0701

## Tunnel detector (divisible) M-Pulse / Digital+

# TU

### Application

The TU sensor serves for retrofitting a metal detector on existing lines as well as for mounting on conveyor belts and chutes that cannot be split. Though it is possible to split the sensor for mounting and to re-assemble it afterwards, the tunnel detector TU provides highest sensitivity for metal detection. Due to this characteristics and the possible fade-out of vibrations and of the product effect the sensor can be applied almost universally. Contrary to other sensors this one is completely made of stainless steel. This allows application in the plastics as well as in the food industry.

### Function

Contrary to classic metal sensors the working principle of this device is based on a system of three coils. This enables the user to analyze signals precisely and to draw conclusions on their origin. By this it is for example possible to distinguish the signals into vibration, product or metal. This additional data allows a more sensible reaction on metallic residua. The sensor is maintenance- and calibration-free.

### Handling

Depending on the operating electronics the handling is realised via a membrane keyboard and a LC-display. Thus all important parameters can be viewed easily and fast and



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changed if necessary. The sensitivity of the detector also is adjustable this way. Detailed information is stated in the documentation of the electronics M-PULSE and Digital+.

### Mounting

The sensing range of the sensor partially is situated above and under the opening of the detector. Big metallic pieces can already be detected in this sector. In order to guarantee the accurate functioning of the sensor, these sectors must be kept free of metal. This so-called metal-free zones are divided into two types:

- Metal-free zones for movable pieces
  - Metal-free zones for non-movable pieces
- The dimension of these zones are specified in the particular data sheets.



Type	TU 300x100 .. TU 2500x800		
<b>Mechanical data</b>			
Active aperture	height: 100 .. 800 mm (50 mm steps)		
Active aperture	width: 300 .. 2500 mm (100 mm steps)		
Material	stainless steel (interior zone: epoxy)		
Mounting	4x drill hole		
Metall free zone for static parts	1,0 x sensor height		
Metall free zone for moving parts <sup>2</sup>	1,5 x sensor height		
<b>Conditions of use</b>			
Storage temperature	-10 .. 50°C		
Operating temperature	0 .. 50°C		
Protection class	IP54		
Electrical connection	Supply via control unit (Attached with 3 m cable).		
<b>Sensitivity<sup>1</sup></b>			
Detection height [mm]	ferrous ball	stainless steel ball	used sensor
Detection height 200 mm	2,5	4,0	M-Pulse TU 200x200
Detection height 300 mm	3,0	5,0	M-Pulse TU 300x300
Detection height 400 mm	3,5	6,0	M-Pulse TU 600x400
Detection height 500 mm	7,0	9,0	M-Pulse TU 1000x500
Detection height 1000 mm	nut M16	nut M16	M-Pulse TU 1000x1000

Order code:

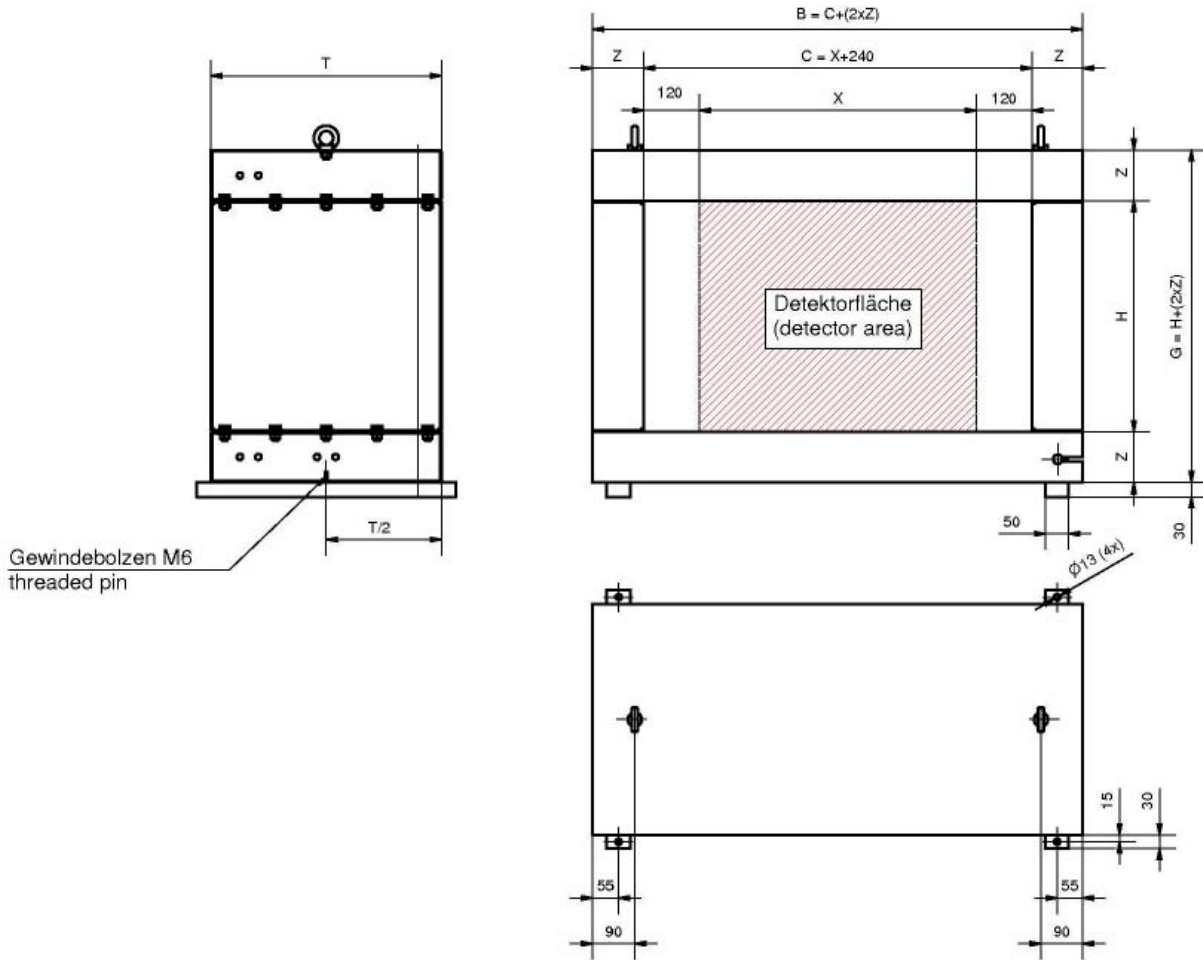
Electronic	Type of sensor	Dimension [mm]
M-Pulse	TU	sensor width X x sensor height H
Digital+		

(e.g.: M-Pulse TU 1200x350)

<sup>1</sup> The actual sensitivity depends on various factors. Unfavourable environmental conditions or vibrations can reduce the sensitivity. Conductive test material can also influence the sensitivity. For obliging information please contact our service or sales department. Our service includes product tests in our headquarters.

<sup>2</sup> Large metallic pieces can cause faulty activation even from great distances. The data refers to smaller pieces like deviating pulleys etc.. For precise information please contact our service or sales department.

## Dimensions



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Dimension H	Dimension T	Dimension Z
< 175 mm	on request	on request
176 - 1000 mm	500 mm	110 mm
1001 - 1200 mm	600 mm	120 mm
> 1200 mm	on request	on request