



Subject to change without notice!
Rev. 0801

Tunnel Detector M-Pulse / Digital+

BD-SL

Application

Tunnel detectors are used where little space is available. For operation the user chooses among various operating electronics according to his application. Thus even complex tasks can be realised. The stainless steel housing and the smoothly grouting are the advantages making this sensor first class for the use in the food industry. Products with conductive components can be analysed sure and high-precision on metallic residua with modern digital technology. The sensors are maintenance- and calibration free.

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 analyse 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.

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 changed if necessary. The sensitivity of the



Tunnel Detector BD-SL

detector also is adjustable this way. Detailed information you will find 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 metal 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 dimensions of these zones are specified in the particular data sheets.



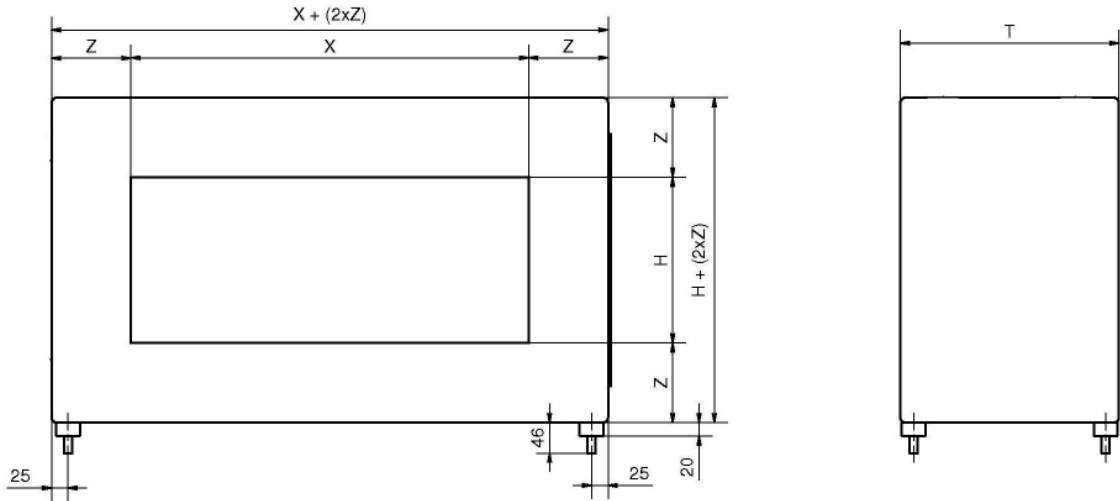
Type	BD-SL 200x100 .. BD-SL 300x600		
Mechanical data			
Sensor aperture - height	100 .. 300 mm (100 mm steps)		
Sensor aperture - width	200 .. 600 mm (100 mm steps)		
Material	Stainless steel (Interior zone: Epoxy)		
Mounting	4x thread pin M12 x 45		
Metal free zone for static parts	1,2 x Sensor's height		
Metal free zone for moving parts ²	1,75 x Sensor's height		
Conditions of use			
Storage temperature	-10 .. 50°C		
Operating temperature	0 .. 50°C		
Protection class	IP65		
Electrical connection	Supply via control unit; Control unit mounted directly at the sensor or optionally mounted up to 3 m away		
Sensitivity¹			
Detection height [mm]	Fe-ball	Stainless steel-ball	Used sensor
Detection height 100 mm	1,0 mm	2,0 mm	M-Pulse BD-SL 350x100
Detection height 200 mm	1,5 mm	2,5 mm	M-Pulse BD-SL 400x200
Detection height 300 mm	2,0 mm	3,5 mm	M-Pulse BD-SL 450x300

¹ 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.

² Large metallic objects 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



(Illustration with M-PULSE electronics)

Tunnel Detector BD-SL

Dimension H or X (minor dimension)	Dimension T	Dimension Z
100 mm	170 mm	60 mm
200 mm	180 mm	70 mm
300 mm	190 mm	80 mm