

METAL DETECTOR

METRON 03 SL

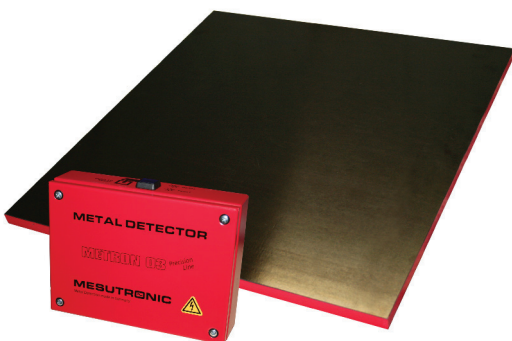
RELIABLE DETECTION OF ALL METALS:

- FERROUS
- STAINLESS STEEL
- ALUMINUM
- COPPER
- BRASS
-

RELIABLE DETECTION OF FREE OR ENCAPSULATED CONTAMINANTS.

VERSION 11/14

A METAL DETECTOR FOR INSTALLATION IN BELT CONVEYORS, ...
PREFERABLY FOR FLAT PRODUCTS.



INDUSTRIES

- PLASTIC INDUSTRY
- RECYCLING INDUSTRY

APPLICATION

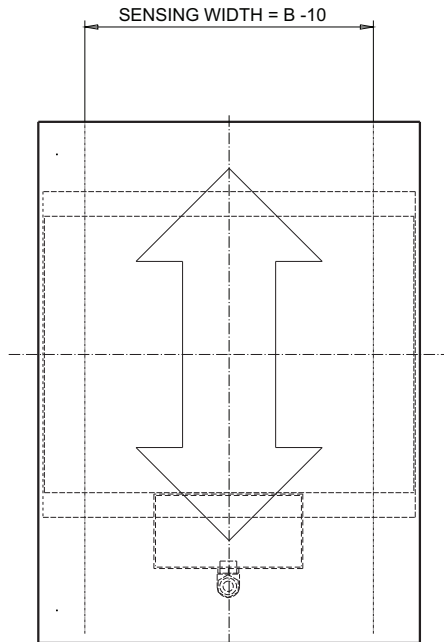
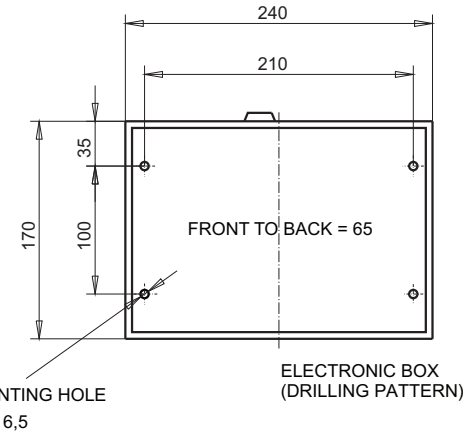
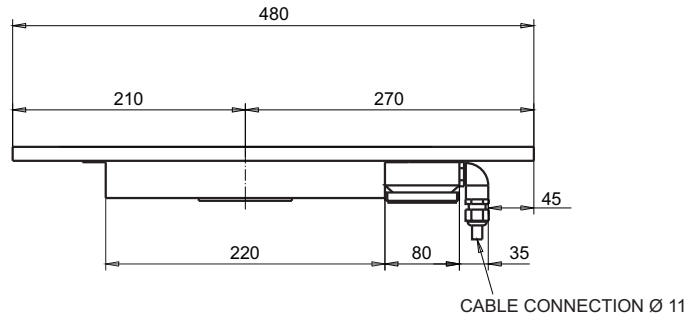
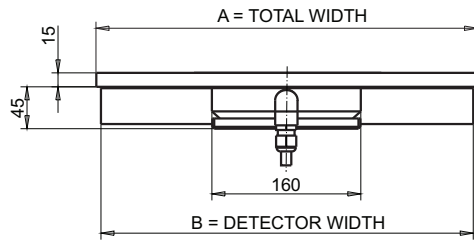
- MACHINERY PROTECTION
- CUTTING MILLS
- GRINDERS, CRUSHERS
-

www.mesutronic.de

MESUTRONIC

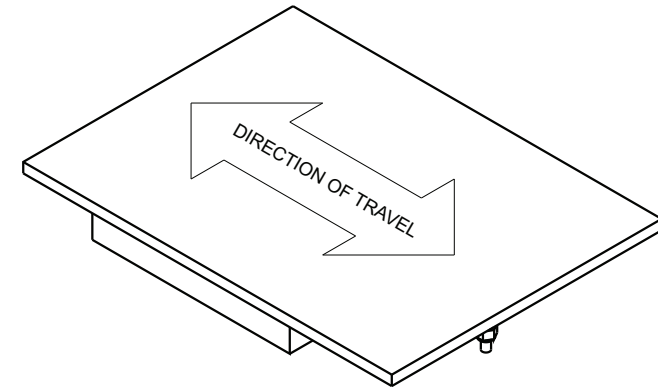
Metal Detection made in Germany

DIMENSIONS



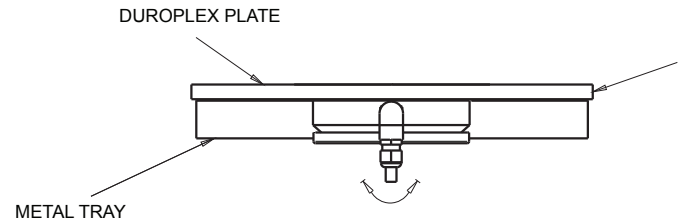
NR.	TOTAL WIDTH A	DETECTOR WIDTH B	SENSING WIDTH B-10	WEIGHT KG
1	min. 210 – max. 300	200	190	5
2	min. 260 – max. 350	250	240	6
3	min. 310 – max. 400	300	290	7
4	min. 360 – max. 450	350	340	8
5	min. 410 – max. 500	400	390	9
6	min. 430 – max. 520	420	410	10
7	min. 460 – max. 550	450	440	11
8	min. 510 – max. 600	500	490	12
9	min. 560 – max. 650	550	540	13
10	min. 610 – max. 700	600	590	14
11	min. 660 – max. 750	650	640	15
12	min. 710 – max. 800	700	690	16
13	min. 760 – max. 850	750	740	17
14	min. 810 – max. 900	800	790	18
15	min. 860 – max. 950	850	840	19
16	min. 910 – max. 1000	900	890	20
17	min. 960 – max. 1050	950	940	21

OTHER DIMENSIONS AVAILABLE



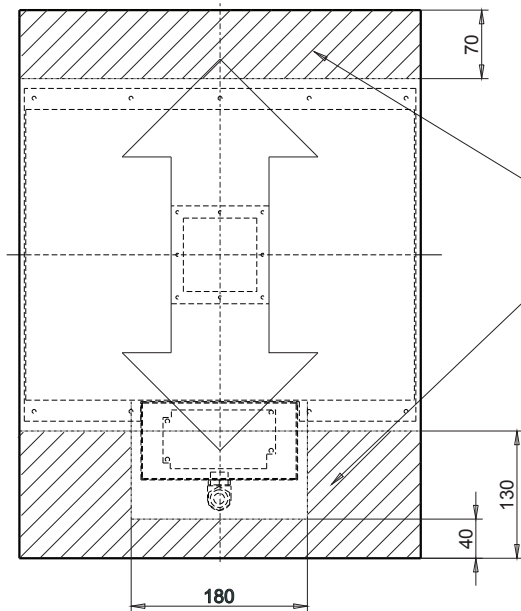
ALL DIMENSIONS IN MM

INSTALLATION



SCREWS MAY BE INSTALLED IN THE SIDE OF THE SURFACE PLATE.

NOTE:
THE SURFACE PLATE MAY BE DAMAGED IF IMPROPERLY INSTALLED!
OBSERVE THE SHADED ZONE !



MOUNT THE COIL ONLY IN THE SHADED ZONE !

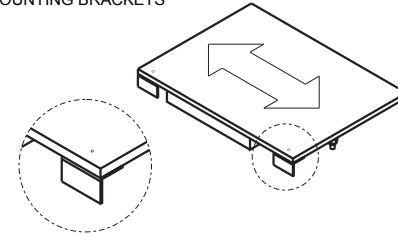
NOTE:
TAKE CARE OF A TORSION - FREE INSTALLATION. WE SUGGEST MOUNTING OPTION C FOR DETECTOR WIDTH > 600 MM.



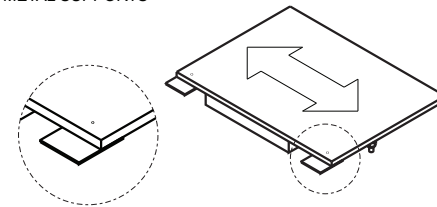
PLEASE MAINTAIN A DISTANCE OF AT LEAST 1.2M (4') BETWEEN CONVEYORS/DETECTORS TO AVOID OVERLAPPING OF COIL FREQUENCY AND SUBSEQUENT FALSE SIGNALS !

MOUNTING POSSIBILITIES

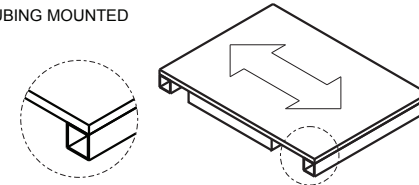
A) MOUNTING BRACKETS



B) METAL SUPPORTS

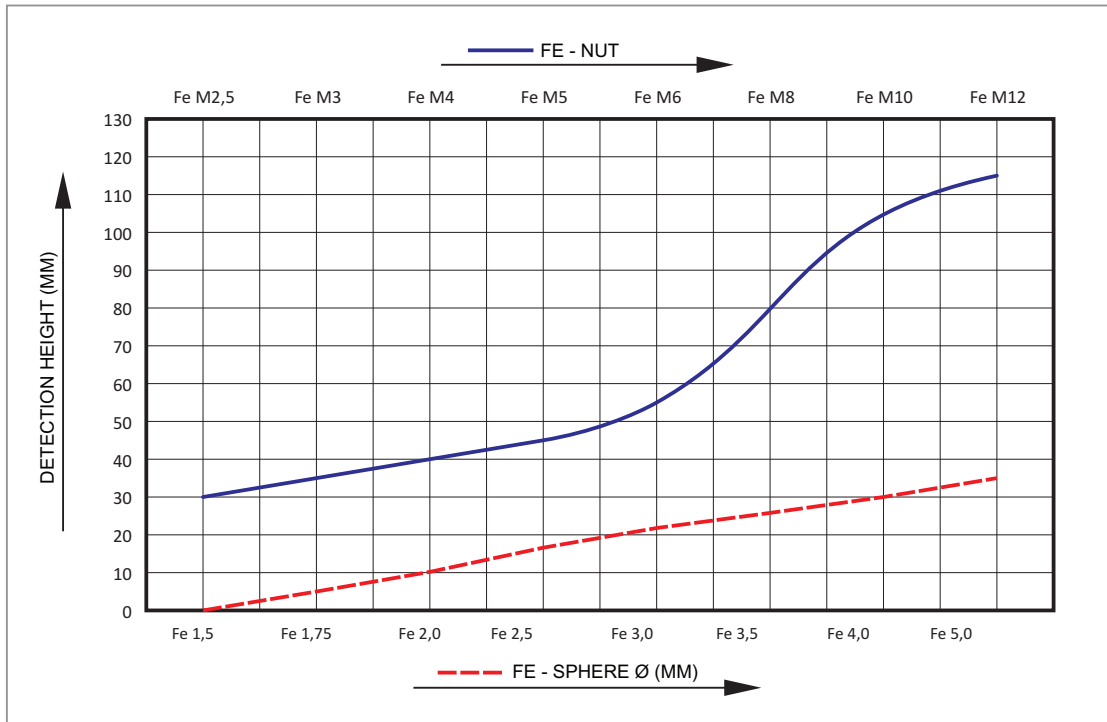


C) TUBING MOUNTED



SENSITIVITY DIAGRAM

THE SENSITIVITY IS DEPENDENT UPON THE DISTANCE BETWEEN THE METAL CONTAMINANT AND THE SENSOR SURFACE. THE CLOSER THE CONTAMINANT IS TO THE SURFACE, THE HIGHER THE SENSITIVITY.



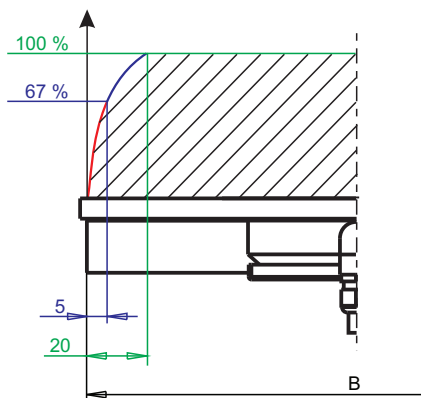
TYPICAL SENSITIVITY DIAGRAM UNDER PROCESS CONDITIONS WITH PLASTIC WASTE.

SENSITIVITY OF OTHER METALS BASED ON THE VALUES OF FERROUS METAL.

SS (STAINLESS STEEL) = FE-SPHERE x 1 TO 2 (FACTOR DEPENDS ON THE METAL ALLOY)

NFe (CU, ALU, BRASS...) = FE-SPHERE x 1,2 TO 1,5 (FACTOR DEPENDS ON THE METAL TYPE)

SENSITIVITY RANGE



SENSITIVITY IN %
IN RELATION TO VALUES GIVEN IN THE DIAGRAM

EXAMPLE: (DETECTION HEIGHT 20 MM)

100 % = FE-SPHERE Ø 3 MM (SEE SENSITIVITY DIAGRAM)

$$\frac{\text{Ø } 3 \text{ MM}}{100} \times (100 - 67) + \text{Ø } 3 \text{ MM} = \text{Ø } 4 \text{ MM}$$

67 % = FE-BALL ~ Ø 4 MM

CONTROL UNIT AMD 03 (Version 3.5)

ADVANTAGES THAT WILL CONVINC YOU!

AUTO BALANCING

DURING POWER UP AS WELL AS DURING STANDARD OPERATION, THE CONTROL UNIT CONTINUOUSLY BALANCES ITSELF. OVER TIME, COILS MAY SHIFT AND SENSITIVE COMPONENTS MAY LOOSE TOLERANCE. TEMPERATURE ALSO HAS AN EFFECT ON THE PERFORMANCE AND MUST BE COMPENSATED FOR. THIS SELF BALANCING ROUTINE INSURES THAT THE DETECTOR IS CONTINUOUSLY OPERATING AT MAXIMUM PERFORMANCE.

PRODUCT EFFECT COMPENSATION

ELECTRICALLY CONDUCTIVE OR HUMID PRODUCTS CAN CAUSE EXTREME LOSS OF SENSITIVITY OR EVEN RENDER CONVENTIONAL DETECTORS USELESS. THE EVALUATION ELECTRONIC SYSTEM AMD 03 ELIMINATES THESE PRODUCT EFFECTS ELECTRONICALLY AND GUARANTEES A CONSTANT SENSITIVITY.

SERVICE FRIENDLY

EASY TO DIAGNOSE: OPTICAL FAULT INDICATION WITH LED'S "DO IT YOURSELF-REPAIRS" ARE EASY. "PLUG AND PLAY" CONNECTORS, A QUARTZ DRIVEN SENDER FREQUENCY AND THE SINGLE MOTHERBOARD CONSTRUCTION GUARANTEE EASE OF REPAIR.

TEMPERATURE COMPENSATION

CUTTING EDGE TECHNOLOGY! EVEN EXTREME TEMPERATURE FLUCTUATIONS ARE EFFORTLESS COMPENSATED WITHOUT AFFECTING THE FUNCTIONS OF THE METAL DETECTOR.

NOISE SUPPRESSION

BY ADDING DYNAMIC DIGITAL FILTRATION CIRCUITRY, VIBRATIONS WHICH ARE OFTEN TRANSFERRED TO THE DETECTOR CAN NOW BE FILTERED OUT WITHOUT HAVING TO LOWER THE SENSITIVITY OF THE SYSTEM.

SELF MONITORING FEATURES

ALONG WITH INDICATORS ON THE FRONT PANELS, RELAY CONTACT IS PROVIDED WHICH CAN BE CONNECTED TO EXTERNAL WARNING DEVICES TO ALERT THE OPERATOR OF ANY PROBLEMS. ALL SYSTEM COMPONENTS ALONG WITH CONNECTIONS TO THE DETECTION COIL ARE CONTINUOUSLY MONITORED.



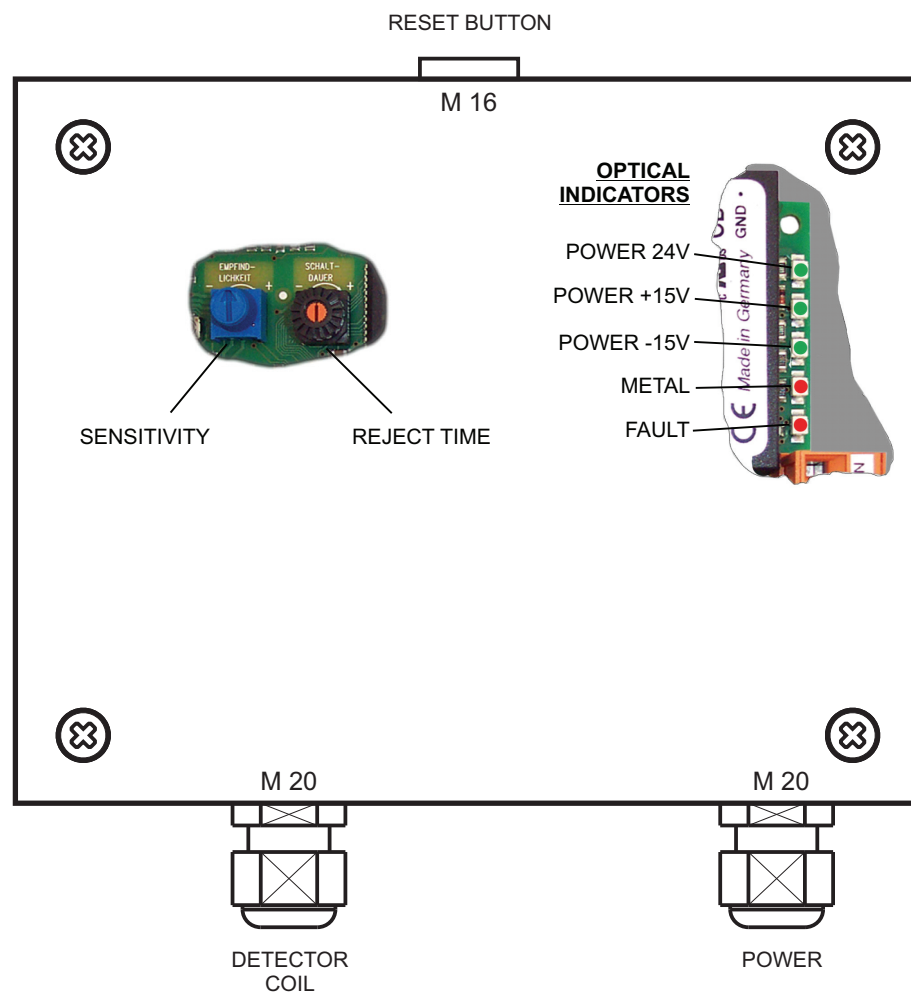
EASY TO OPERATE

EASY TO USE CONTROLS ALONG WITH VISUAL DISPLAYS MAKE THE INSTALLATION AND OPERATION OF THE AMD 03 EFFORTLESS.

QUALITY

SMD (SURFACE MOUNTED DEVICES) HAVE BEEN USED IN THE PRODUCTION OF THE CONTROLS. THEY NOT ONLY OFFER A COMPACT DESIGN, BUT ALSO PROVIDE A HIGHER QUALITY AND MORE ROBUST PERFORMANCE UNDER HARSH CONDITIONS. ALL MESUTRONIC PRODUCTS MEET THE REQUIREMENT OF DIN, VDI/VDE, UVV AND CE REGULATIONS.

CONTROLS

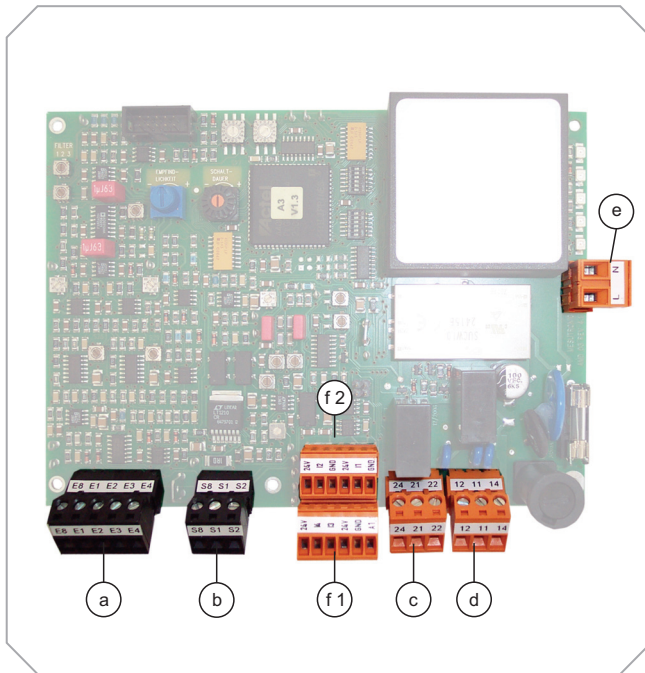


TECHNICAL DATA

POWER SUPPLY:	100 - 240 V AC, 50/60 Hz
CURRENT CONSUMPTION:	MAX. 0,4 A
FUSE:	315 MA (SLOW BLOW), 5x20 MM TO DIN
TYPE OF PROTECTION:	IP 54
WORKING TEMPERATURE RANGE:	- 10° C TO + 50° C
STORAGE TEMPERATURE RANGE:	- 10° C TO + 60° C
REL. HUMIDITY:	UP TO 100 %
CONVEYING SPEED:	0,10 TO 1,5 M/SEC.
REJECT DURATION:	0,14 TO 19 SEC. +/- 7 MS, ADJUSTABLE
PAINTED:	RAL 3027 = RASPBERRY RED
POWER CABLE::	APP. 1,8 M CABLE WITH PLUG (TWO POLE AND EARTHING PIN) (US-VERSION WITH US-STANDARD PLUG)

OTHER VERSIONS AVAILABLE

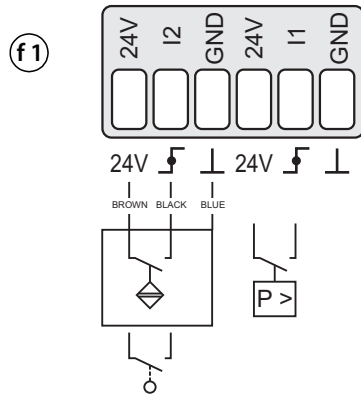
INPUTS AND OUTPUTS



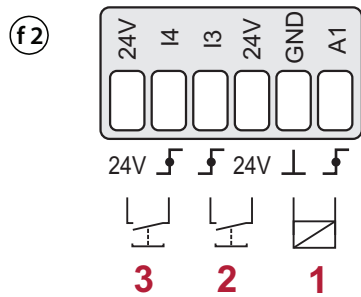
- (f1) + (f2) FUNCTION BLOCK + (e) POWER +
 (a) RECEIVER + (b) TRANSMITTER ARE USED BY MANUFACTURER

(f1) + (f2) FUNCTION BLOCK

CONNECTING EXAMPLES



INPUTS (STANDARD LAYOUT)



24 VDC IN-/OUTPUTS (STANDARD LAYOUT)

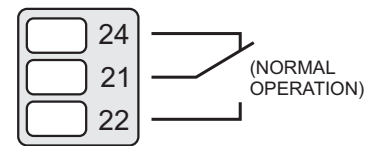
1. A1 – ACTIVE OUTPUT SWITCHES WHEN METAL IS DETECTED (OPERATES THE SOLENOID VALVE).
2. RESET-BUTTON, EXTERNAL (TO RESET THE FAULT INDICATION)
3. CONNECTION AVAILABLE FOR A TEST-BUTTON

CONNECT ONLY POTENTIAL FREE CONTACTS (NO EXTERNAL SUPPLIED VOLTAGE) !
 MAX. (TOTAL) POWER CONSUMPTION = 100 MA (FOR ALL CONNECTIONS / f1 + f2)

INPUTS AND OUTPUTS

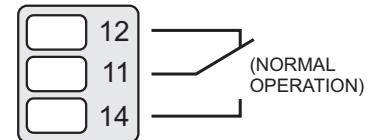
c RELAY 2 (OPERATIONAL)

- FLOATING RELAY CHANGE OVER CONTACT ACTUATED BY SELF MONITORING SYSTEM
MAX. CONTACT LOAD: 250V/3A



d RELAY 1 (METAL)

- FLOATING RELAY-CHANGE OVER CONTACT ACTUATED WHEN METAL IS DETECTED MAX. CONTACT LOAD: 250 V / 3 A
PULSE DURATION (AUTO-RESET): 0,14 SEC. TO 19 SEC. (ADJUSTABLE)



e POWER SUPPLY

- 100 - 240 VAC, 50/60 HZ; CURRENT CONSUMPTION MAX. 750 MA
(OTHER VERSIONS AVAILABLE)



MATERIALS OVERVIEW

DETECTOR COIL: COVER PLATE MADE OF DUROPLEX (15 MM)
COIL TRAY AND CONNECTION BOX = SHEET STEEL (ST 37)
TEXTURED PAINTED (RAL)

ELECTRONIC BOX: SHEET STEEL (ST 37) POWDER COATED

THE MESUTRONIC GERÄTEBAU GMBH IS A GLOBALLY ACTIVE COMPANY IN THE FIELD OF INDUSTRIAL METAL DETECTION TECHNOLOGY WITH HEADQUARTERS IN GERMANY.

A TEAM OF SPECIALISTS FOCUSES FOR DECADES SUCCESSFULLY ON THE DEVELOPMENT, MANUFACTURING AND DISTRIBUTION OF ELECTRONIC METAL DETECTORS AND SEPARATORS FOR ALL INDUSTRIES. DAILY WE TAKE UP THE CHALLENGE TO SOLVE INDIVIDUAL PROBLEMS RELIABLE AND TAILORED TO THE CUSTOMER. WHERE OTHERS SAID "NO" LONG AGO OUR TASK JUST STARTS. TRUE TO THE MOTTO: "NOTHING IS IMPOSSIBLE."

THOUSANDS OF DETECTOR COILS, VARIOUS TRANSMITTERS AND A VARIETY OF EJECTORS AND MECHANICAL COMPONENTS CAN BE COMBINED DEPENDING ON THE TASK AND SERVE AS A BASIS FOR PRACTICAL AND FLEXIBLE SOLUTIONS. THROUGH YEARS OF CLOSE COLLABORATION WITH OUR CUSTOMERS FROM VARIOUS INDUSTRIES, WE HAVE SHAPED OUR EQUIPMENT PROGRAM CONTINUAL WITH THE RESULT THAT ALL MESUTRONIC PRODUCTS ARE NOW LEADING THE WAY IN PERFORMANCE, QUALITY, RELIABILITY AND HANDLING.

IN ADDITION, OUR WORLDWIDE SALES AND SERVICE NETWORK ENSURES THAT ON ALL CONTINENTS OF THE WORLD A PROFESSIONAL COMPETENT CONTACT PERSON IS AVAILABLE FOR YOU.



MESUTRONIC

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