

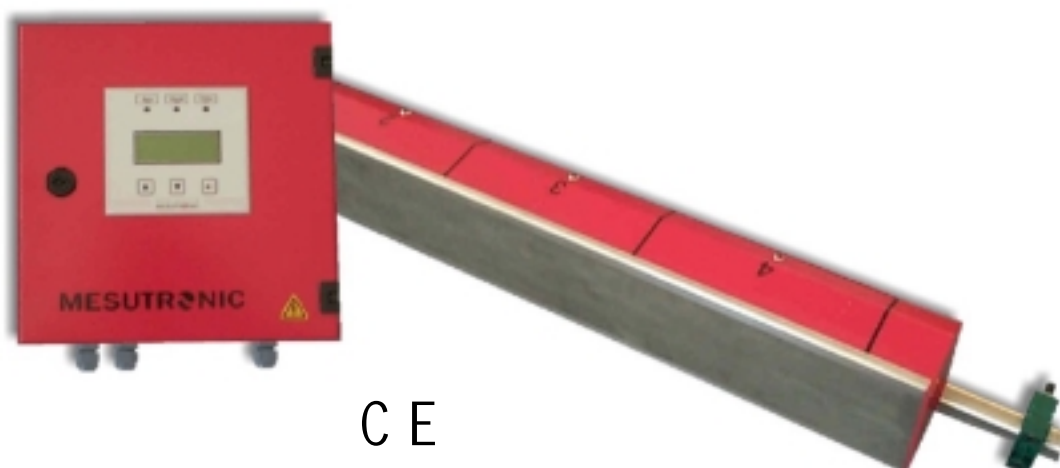
TECHNICAL DATA SHEET
METAL DETECTOR

METRON 04 *Profi
Line*

RELIABLE DETECTION OF **ALL** METALS (ENCAPSULATED OR FREE)

- FERROUS & NON-FERROUS
- NON-MAGNETIC STEEL
- ALUMINUM
- COPPER
- BRASS
-

MULTISEGMENTED METAL DETECTOR
FOR THE INSPECTION OF WEBS (WOVEN AND NON-WOVENS)



CE

INDUSTRIES

- TEXTILE INDUSTRY

APPLICATION

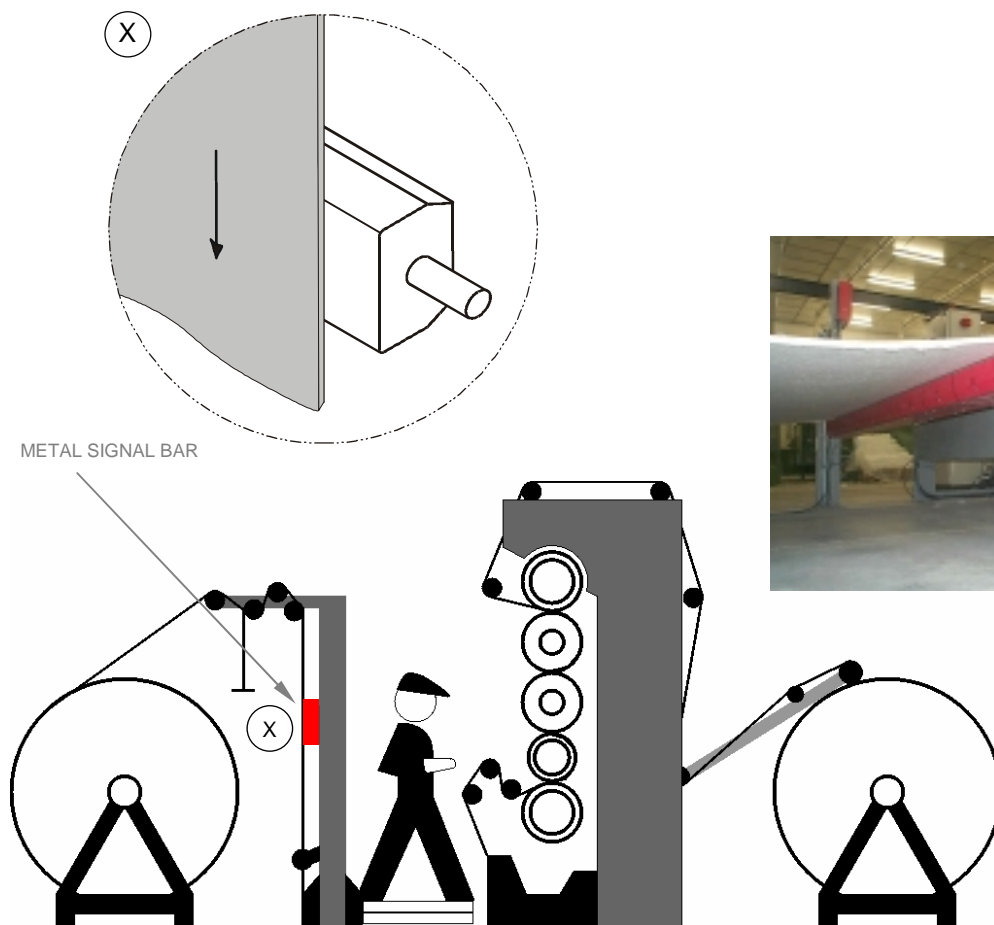
- PRODUCT INSPECTION
- MACHINERY PROTECTION
- CALENDERS
- FABRIC SHREDDING / FABRIC CLEANING MACHINES
- FORM PRESSES
-

FEATURES

- MULTIPLE SCANNING ZONES ACROSS THE ENTIRE WIDTH OF THE COIL HELP POINTING THE LOCATION OF THE METAL CONTAMINATION WITHIN 300 MM / 12 INCHES. EACH SEGMENT IS WIRED TO IT'S OWN LED INDICATOR.
- MINIMAL "METAL FREE ZONE" REQUIRED FOR INSTALLATION
- SPECIAL COIL CONFIGURATIONS MAKE THE SYSTEM IMPERVIOUS TO VIBRATIONS OR EXTERNAL EFFECTS
- ANTI-STATIC SENSOR SURFACE
- EASY TO OPERATE
- SELFMONITORING ELECTRONICS
- EXCELLENT SENSITIVITY TO FERROUS, NON-FERROUS AND STAINLESS STEEL
- DESIGNED FOR INDUSTRIAL USE



THE DATA SHEET CONTAINS ADDITIONAL INFORMATION AS TO THE AMD 04 (VERSION 4.1) ELECTRONICS.



(ALL) METAL DETECTOR METRON 04 PROFI LINE IN USE

STANDARD EQUIPMENT

- MULTI-SEGMENT METAL DETECTION COIL
- CONTROL UNIT
- INTERCONNECTING CABLES
- INSTALLATION ACCESSORIES
- MANUAL, INSTALLATION INSTRUCTIONS, WIRING DIAGRAM AND PARTSLIST
- EC-CONFORMITY DECLARATION

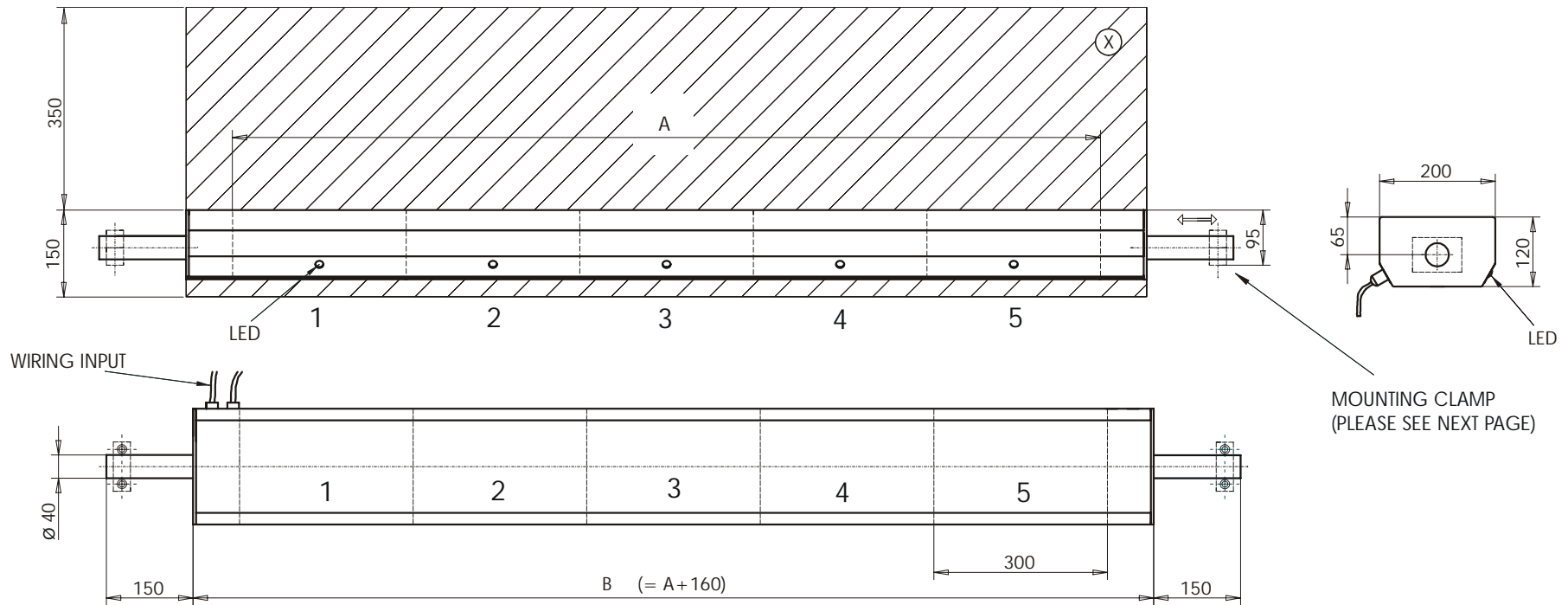
OPTIONAL EQUIPMENT

- | | |
|---------------------------|---|
| ● WARNING DEVICE | - BEACON
- BUZZER
- BEACON WITH SIREN |
| ● REMOTE RESET DEVICE | |
| ● VISUAL MARKERS | - INK JET MARKING DEVICE |
| ● POWER CONDITIONER | - MAGNETIC VOLTAGE STABILIZER
- ELECTRONIC VOLTAGE STABILIZER |
| ● HANDHELD METAL DETECTOR | - USED TO HELP PONPOINT THE
EXACT LOCATION OF THE METAL |
| ● SEGMENT CONTROL BOX | - PROVIDES INDIVIDUAL OUTPUTS FOR
EACH SEGMENT FOR INTERFACING
WITH A PLC |

OTHER OPTIONS

- SPECIAL PAINT
- SPECIAL VOLTAGE
- PRIVATE LABELING OF EQUIPMENT

DIMENSIONS

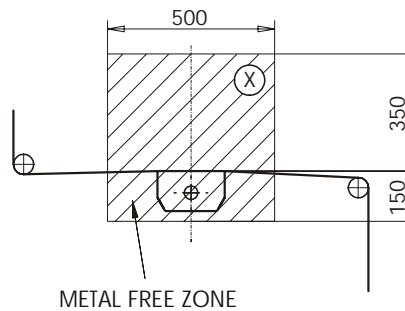


(X) METAL FREE ZONE FOR NON-MOVING METAL PARTS SUCH AS MACHINERY FRAMES, SUPPORTS, ETC.

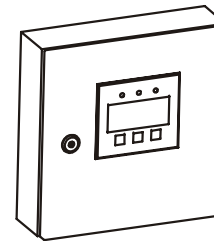
PLEASE TAKE INTO CONSIDERATION THAT THE DISTANCE FOR MOVING METAL PARTS DEPENDS ON THE METALS SIZE, SHAPE AND TYPE OF MOVEMENT. THE DISTANCE IS EQUAL OR GREATER THAN THE "METAL FREE ZONE" DESCRIBED IN THE DATA SHEET AND IT CANNOT BE LESS! UPON REQUEST OUR APPLICATION DEPARTMENT WILL OFFER THE APPROPRIATE RECOMMENDATION.

SENSING WHITH A		NUMBERS OF SEGMENTS
MM	INCH	
1200	47	4
1500	59	5
1800	70	6
2100	82	7
2400	94	8
2700	106	9
3000	118	10
3300	129	11
3600	141	12
3900	153	13
4200	165	14
4500	177	15
4800	188	16
5100	200	17
5400	212	18
5700	224	19
6000	236	20

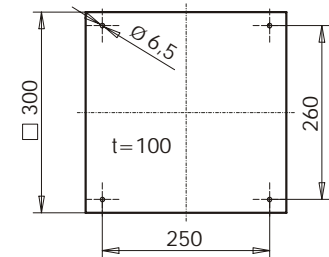
INSTALLATION EXAMPLE



CONTROL BOX



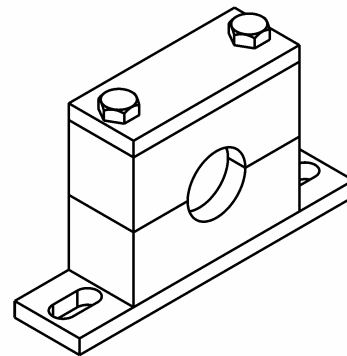
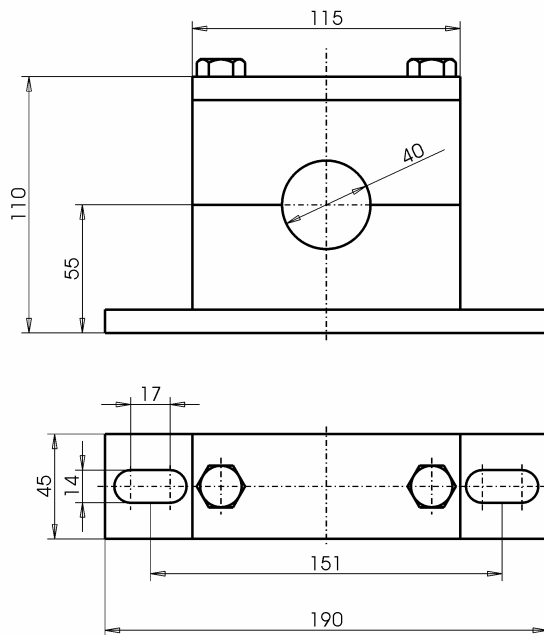
CONTROL BOX (DRILLING PATTERN)



ALL DIMENSIONS IN MM.

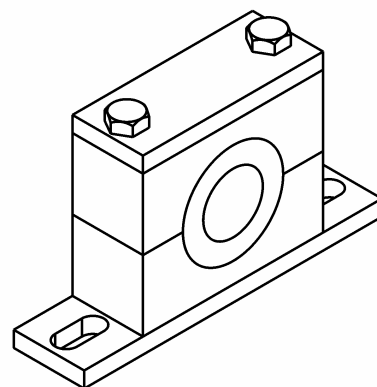
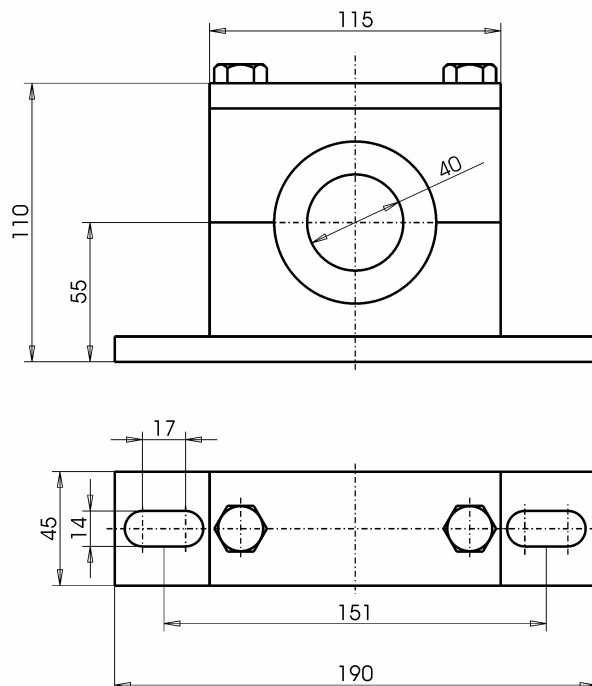
MOUNTING CLAMP VERSION 1

(Low Speed, $v = < 90$ m/min.)



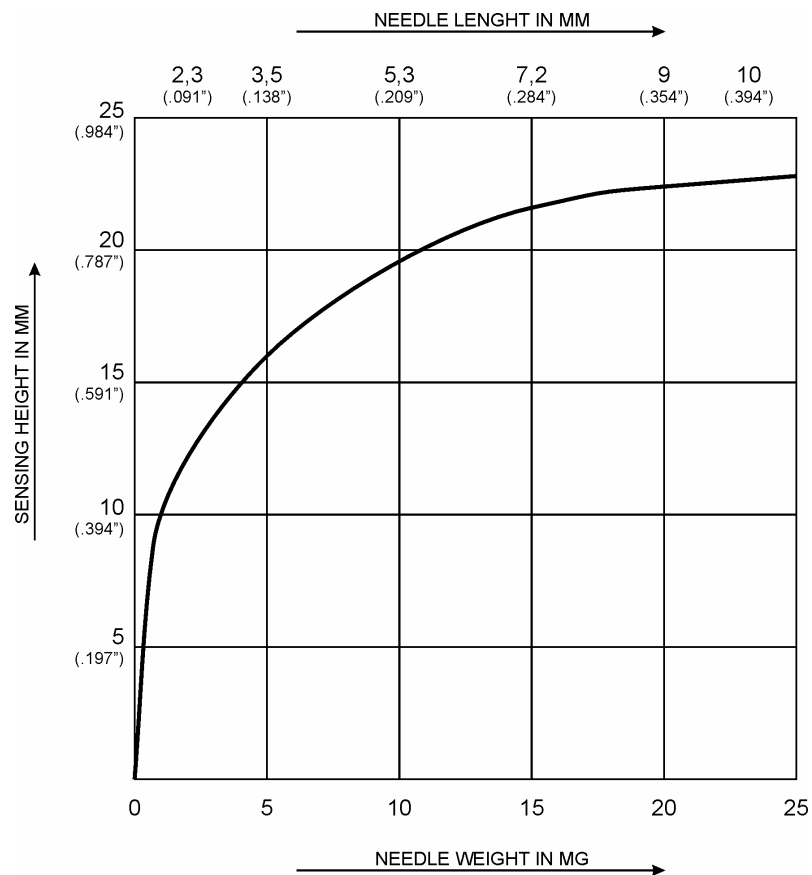
MOUNTING CLAMP VERSION 2

(High Speed, $v = > 90$ m/min.)



SENSITIVITY DIAGRAM

THE SENSITIVITY IS DEPENDENT UPON THE DISTANCE BETWEEN THE METAL CONTAMINANT AND THE SENSING SURFACE. THE CLOSER THE METAL IS TO THE SURFACE, THE GREATER THE SENSITIVITY.



THE SENSITIVITIES STATED IN THE DIAGRAM HAVE BEEN ACHIEVED UNDER PRODUCTION CONDITIONS AND ARE INDICATIVE WITH NORMAL FABRICS. THE MATERIAL WAS CONTAMINATED WITH NEEDLE TIPS OF VARYING LENGTH FOR TEST PURPOSES. DIFFERING RESULTS THAN SHOWN IN THE DIAGRAM ARE POSSIBLE DUE TO THE RELATIVE POSITION "ORIENTATION EFFECT" OF THE NEEDLES TO THE DETECTOR APERTURE. EXTRAORDINARY STRONG PERIPHERAL DISTURBANCES MAY EFFECT THE SENSITIVITY, AS WELL AS ELECTRICALLY CONDUCTIVE FIBERS WHICH CAN CREATE A "PRODUCT EFFECT". IF SAMPLES ARE PROVIDED WE CAN TEST THEM IN OUR R&D FACILITY TO DETERMINE PROJECT SPECIFIC SENSITIVITIES.

TO CALCULATE SENSITIVITY FOR OTHER METALS USE THE FOLLOWING MULTIPLICATION FACTOR.

VA (STAINLESS STEEL) = DIAGRAM VALUE x 1.5
(FACTOR DEPENDS ON THE METAL ALLOY)

CU, ALU, BRASS... = DIAGRAM VALUE x 1.3
(FACTOR DEPENDS ON THE METAL TYPE)

CONTROL UNIT AMD 04 (VERSION 4.1)

CAN-BUS- TECHNOLOGY FOR OPTIMUM RELIABILITY AND EASE OF SERVICE. MINIMAL WIRING BETWEEN THE ELECTRONICS AND THE SENSING COIL, AS WELL AS INTERNALLY IN THE MULTISEGMENT SENSING COIL. THIS TECHNOLOGY INCREASES RELIABILITY. SPACE SAVING SMD TECHNOLOGY GUARANTEES QUALITY AND RELIABILITY. AUTOMATED COMPONENT PLACEMENT ELIMINATES MANUFACTURING ERRORS. EACH MOTHERBOARD IS 100% TESTED AND UNDERGOES A BURN IN AND ARTIFICIAL AGING PRIOR TO INSTALLATION. MESUTRONIC PRODUCTS ARE MANUFACTURED ACCORDING TO CURRENT SAFETY, NATIONAL AND INTERNATIONAL REGULATIONS.

ELECTRONIC PRODUCT EFFECT SUPPRESSION GUARANTEES HIGHEST SENSITIVITY. REAL PRODUCT PARAMETER EVALUATION ALLOWS FOR TARGETED ELIMINATION OF INTERFERENCES WHICH ARE CAUSED BY "PRODUCT EFFECT".

AUTO-SETUP-ROUTINE WITH INTERFERENCE SIGNAL SUPPRESSION AND AUTOMATIC SENSITIVITY CALIBRATION.

MULTI FUNCTION FILTER SYSTEM HIGHLY SELECTIVE DIGITAL FILTER AND DYNAMIC RESPONSE FILTER FOR RELIABILITY IN HARSH INDUSTRIAL ENVIRONMENTS.

AUTO-BALANCE AUTOMATICALLY DETECTS AND COMPENSATES FOR ANY CHANGES IN THE SIGNAL DURING NORMAL OPERATION. (E.G. TEMPERATURE VARIATIONS)

SELFMONITORING FOR THE CONTINUOUS MONITORING OF THE UNIT. FAULT INDICATION THRU RELAYS AND TEXT DISPLAY.

TOUCHPAD OPERATED USER FRIENDLY TOUCHPAD OPERATION. OPERATING ELEMENTS AND DISPLAY ARE SHIELDED AGAINST HUMIDITY AND DUST.



C E

3 BUTTON TOUCHPAD CONTROLS OFFER EASY TO USE MENU DRIVEN COMMANDS - MULTIPLE LANGUAGES ARE ALSO AVAILABLE.

4-LINE BACK-LIT LCD DISPLAY WITH METAL SIGNAL INDICATION. ADDITIONAL LED INDICATOR LAMPS ARE BUILT IN TO INDICATE METAL DETECTION OR FAULTS.

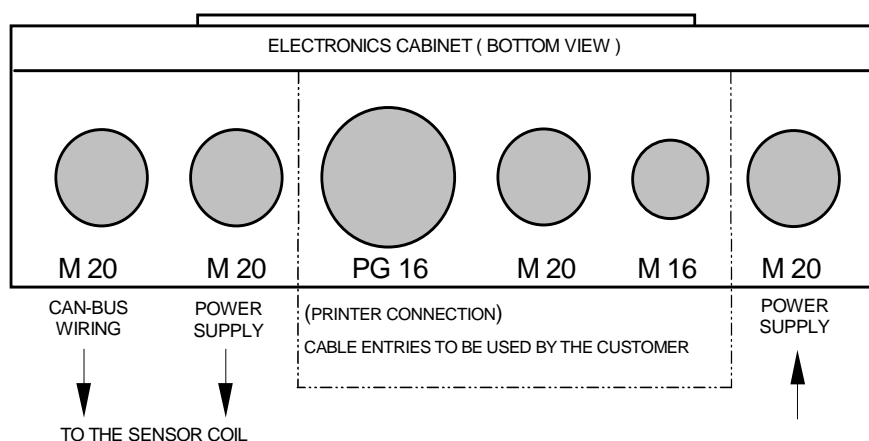
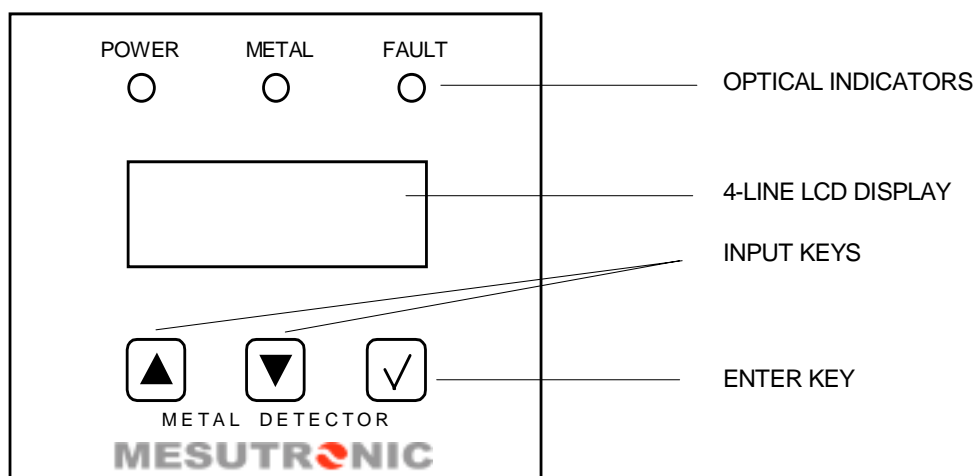
3-LEVEL PASSWORD PROTECTION WITH INTER-CHANGEABLE CODE NUMBERS.

PERMANENT DATA STORAGE PERMANENT STORAGE OF OPERATING DATA EVEN DURING LONG POWER OUTAGES SAFEGUARDS AGAINST LOSS OF PRODUCTION. TIME DEPENDENT PARAMETERS SUCH AS METAL SIGNAL DELAY OR SIGNAL TIME ARE ADJUSTED IN REAL TIME. INPUT FOR LINE OR UNIT IDENTIFICATION DATA IS ALSO POSSIBLE.

UNIVERSAL USE! ALL INPUTS AND OUTPUTS ARE ADJUSTABLE AS REQUIRED BY THE PROJECT OR CUSTOMER. THE ELECTRONICS CAN BE USED TO REGULATE OTHER DEVICES AS WELL. THE STANDARD PROGRAMMING ALLOWS FOR CONNECTION OF A SECOND RESET WHICH RESTS THE ACTIVE 24V OUTPUT WHICH POWERS, FOR EXAMPLE, AN ACOUSTIC "METAL SIGNAL" DEVICE. AFTER THE METAL PARTICLE WAS FOUND AND REMOVED, THE OPERATOR PUSHES RESET 1, WHICH RESETS ALL OUTPUTS AND STARTS PRODUCTION AGAIN. OR THE METAL DETECTOR MAYBE SWITCHED ON OR OFF WITH AN EXTERNAL 24 V SIGNAL. WE OFFER AN INFINITY OF POSSIBILITIES TO ALLOW OUR CUSTOMER THE FREEDOM TO CHOOSE.

SERIAL DATA COMMUNICATION VIA AN RS 232, 422, 485 TO TRANSMIT DATA TO A LOCAL OR CENTRALIZED PRINTER. (MAXIMUM CABLE LENGTH OF UP TO 1.2 KM DEPENDING ON SERIAL CABLE).

CONTROLS

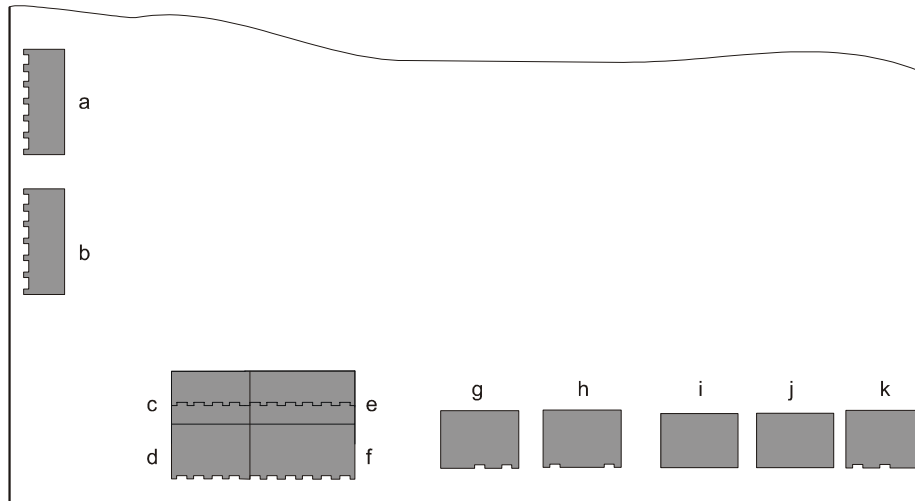


TECHNICAL DATA

POWER SUPPLY	: 100 – 240 V AC, 50/60 HZ
CURRENT CONSUMPTION	: MAX. 0,75 A
FUSE	: 2 A (SLOW BLOW)
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	: RANGE 1 = 1,5 M/MIN. TO 90 M/MIN. RANGE 2 = 1,5 M/MIN. TO 1200 M/MIN.
MATERIALS	: DETECTOR HEAD AND CONTROL BOX MADE OF CARBON STEEL, PAINTED (RAL 3027 = RASPBERRY RED) SENSING AREAS MADE OF BETONOL (ANTISTATIC)
INTERCONNECTING CABLES	: SEARCH COIL / CONTROL CABINET = 2 M LONG
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



(b) CAN-BUS + (j) POWER-OUTPUT

(SEARCH COIL) USED BY THE MANUFACTURER!

1) STANDARD PROGRAMMING
INPUTS AND OUTPUTS CAN BE PROGRAMMED AS REQUIRED.

(a) SERIAL DIGITAL INTERFACE

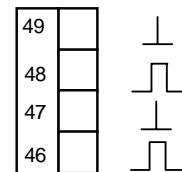
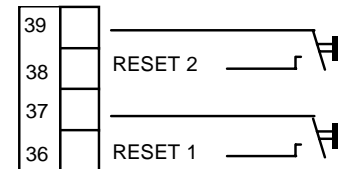
- ♦ RS 232, 485 (CAN BE SWITCHED) OR 422
(UNLESS OTHERWISE SPECIFIED, RS 232 PRE-PROGRAMMED)

(c) RESET

- ♦ RESET 1 (MAIN-RESET) : CONNECT ONLY FLOATING CONTACTS
- ♦ RESET 2 (ALARM-RESET) : CONNECT ONLY FLOATING CONTACTS

(d) ACTIVE - OUTPUTS¹⁾

- ♦ ACTIVE-OUTPUT 1 : SWITCHES WHEN METAL IS DETECTED
NORMAL OPERATION 0 V
IF METAL IS DETECTED + 24 V
PULSE DURATION (RESET BY HAND) : PERMANENT SIGNAL UNTIL RESET
BUTTON 1 IS PRESSED
PULSE DURATION (AUTO-RESET) : 0,1 SEC. TO 30 SEC. (ADJUSTABLE)
DELAY TIME (AUTO-RESET) : 0,0 SEC. TO 30 SEC. (ADJUSTABLE)
- ♦ ACTIVE-OUTPUT 2 : SWITCHES WHEN METAL IS DETECTED
NORMAL OPERATION 0 V
IF METAL IS DETECTED + 24 V
PULSE DURATION (RESET BY HAND) : PERMANENT SIGNAL UNTIL RESET
BUTTON 2 OR 1 IS PRESSED
PULSE DURATION (AUTO-RESET) : 0,1 SEC. TO 30 SEC. (ADJUSTABLE)
DELAY TIME (AUTO-RESET) : 0,0 SEC. TO 30 SEC. (ADJUSTABLE)

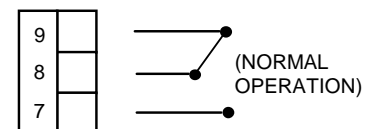


(e) + (f) CONTROL INPUTS¹⁾

- ♦ 3 – INDIVIDUALLY PROGRAMMABLE BY THE FACTORY
(PLEASE CONTACT OUR APPLICATION TEAM)

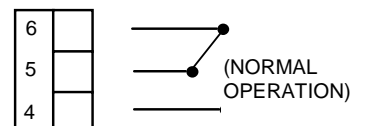
(g) RELAY 2 (FAULT)¹⁾

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



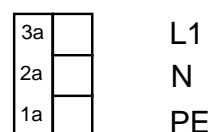
(h) RELAY 1 (METAL)¹⁾

- ♦ FLOATING RELAY-CHANGE OVER CONTACT ACTUATED WHEN METAL IS DETECTED
MAX. CONTACT LOAD : 250 V / 3 A
PULSE DURATION (RESET BY HAND) : PERMANENT SIGNAL UNTIL RESET
BUTTON 1 IS PRESSED
PULSE DURATION (AUTO-RESET) : 0,1 SEC. TO 30 SEC. (ADJUSTABLE)
DELAY TIME (AUTO-RESET) : 0,0 SEC. TO 30 SEC. (ADJUSTABLE)



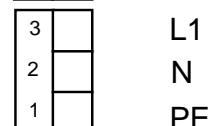
(i) POWER OUTPUT

- ♦ VOLTAGE IS IDENTICAL TO THE POWER INPUT VOLTAGE



(k) POWER INPUT

- ♦ 100 - 240 VAC , 50/60 HZ
OTHER VERSIONS AVAILABLE



MESUTRONIC GERÄTEBAU GMBH

A TEAM OF SPECIALISTS DEDICATED TO DEVELOP, MANUFACTURE AND MARKET THE WORLD'S FINEST ELECTRONIC METAL DETECTION AND SEPARATION EQUIPMENT FOR ALL INDUSTRIES. IT IS OUR GOAL TO PROVIDE THE OPTIMUM SOLUTION TO MEET EVERY CRITERIA. MANY YEARS OF EXPERIENCE PROVIDING HUNDREDS OF DETECTION COILS WITH VARIOUS CONTROLS AS WELL AS A MULTITUDE OF MECHANICAL SEPARATING AND SORTING COMPONENTS, ARE AT YOUR DISPOSAL. WE POOL OUR KNOWLEDGE AND EXPERIENCE TO OFFER A SOLUTION TO VIRTUALLY ANY APPLICATION.

„WHEN OTHERS SAY NO, WE SAY LETS GO!“

LET OUR TEAM PROVIDE YOU WITH THE OPTIMUM SOLUTION FOR YOUR METAL CONTAMINATION.

Strength is not a question of company size

MESUTRONIC

Strength is always being available

MESUTRONIC®

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SUBJECT TO MODIFICATION!