

TECHNICAL DATA SHEET
METAL DETECTOR
METRON® 05 VT

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

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

METAL DETECTOR FOR VIBRATORY CONVEYORS



INDUSTRIES

- TIMBER INDUSTRY

APPLICATION

- MACHINERY PROTECTION
CHIPPERS

- NO „METAL FREE ZONE“ REQUIRED
- HIGHLY SENSITIVE TO FERROUS, NON-FERROUS AND STAINLESS STEEL
- QUICK AND EASY INSTALLATION
- USER FRIENDLY OPERATION
- MODELS TO FIT EVERY APPLICATION
- THE DATA SHEET CONTAINS ADDITIONAL INFORMATION AS TO THE AMD 05 (VERSION 5.0) ELECTRONICS.

MODELS

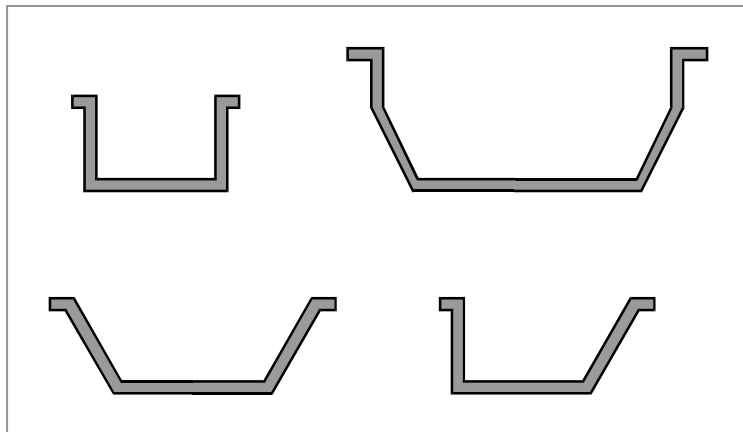


EXAMPLE 1



EXAMPLE 2

SUMMARY



NO MATTER WHICH SHAPE YOUR TROUGH, MESUTRONIC HAS THE RIGHT SIZE METAL DETECTOR!

SCOPE OF DELIVERY

- DETECTOR HEAD
- CONTROL UNIT
- INTERCONNECTING CABLES
- MANUAL, INSTALLATION INSTRUCTIONS, WIRING DIAGRAM AND PARTSLIST
- EC-CONFORMITY DECLARATION

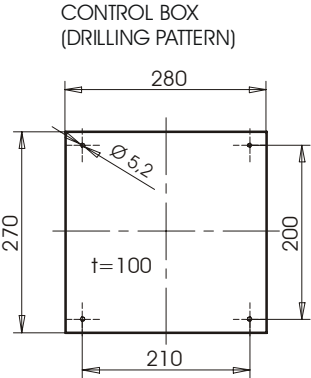
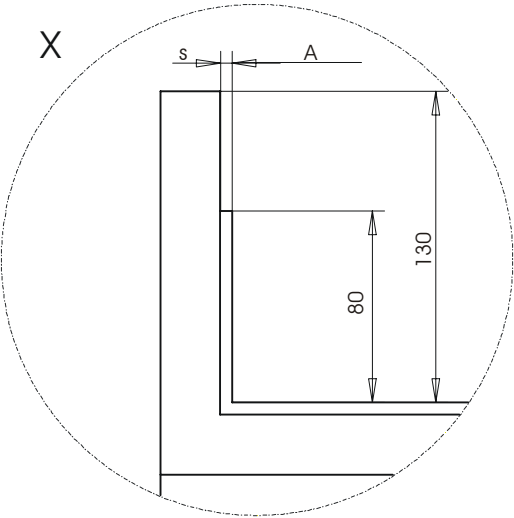
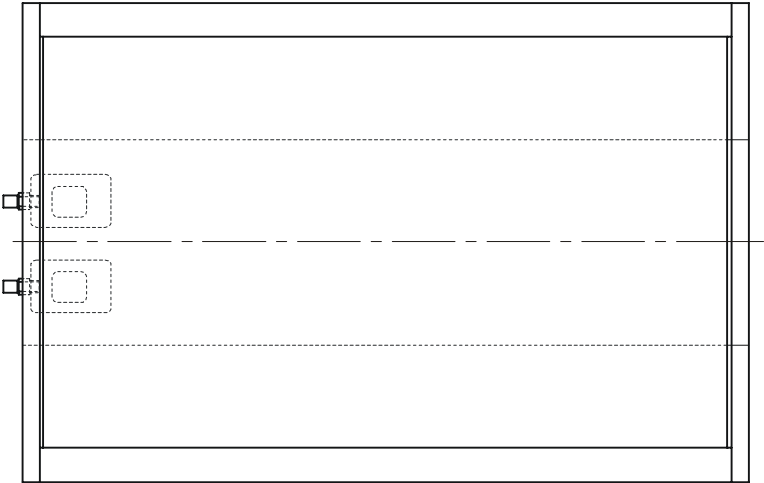
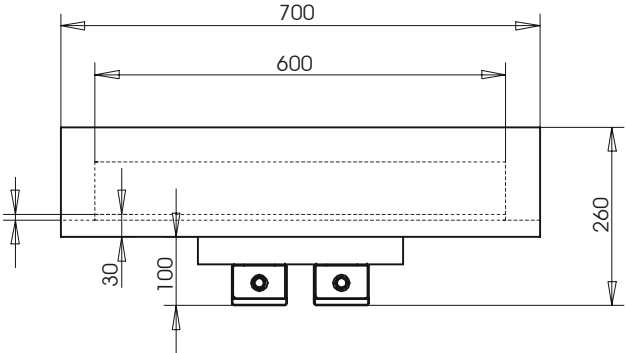
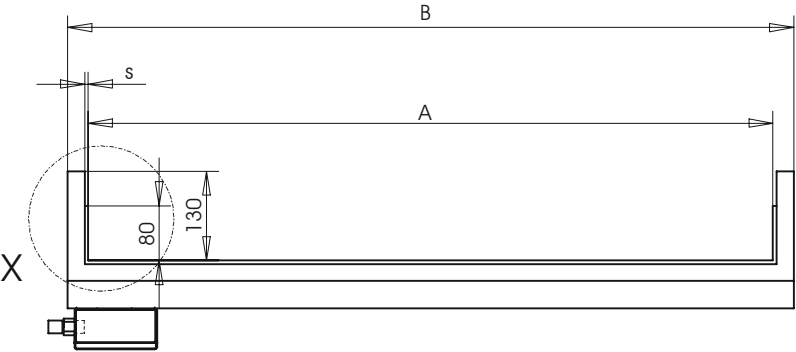
OPTIONAL EQUIPMENT

- | | |
|---------------------------------|---|
| ● WARNING DEVICE | - BEACON
- BUZZER
- BEACON WITH SIREN |
| ● REMOTE RESET DEVICE | |
| ● VISUAL MARKERS | - INK JET MARKING DEVICE |
| ● HARD COPY PRINTER | - WITH RS 232 CONNECTION (MAX. CABLE LENGTH OF 100 METERS)
- WITH RS 422 CONNECTION (MAX. CABLE LENGTH OF 1200 METERS) |
| ● CUSTOMIZED SOFTWARE SOLUTIONS | - SPECIAL CONTROL OPERATIONS
- DATA TRANSFER |
| ● POWER CONDITIONER | - MAGNETIC VOLTAGE STABILIZER
- ELECTRONIC VOLTAGE STABILIZER |
| ● CARDREADER | - A CHIP CARD MONITORS OPERATOR ACCESS |

OTHER OPTIONS

- DETECTOR HEAD AND CONTROL BOX IN STAINLESS STEEL
- EXPLOSION PROOF
- PROTECTION TYPE IP65, NEMA 4
- CUSTOM PAINT
- SPECIAL POWER SUPPLY
- HIGH TEMPERATURE
- ALUTRON (NO FALSE TRIPPING BY METALIC FILMS SUCH AS CUP LIDS,)
PATENT NO. 4342826
- OFFERED WITHOUT BRAND-NAME

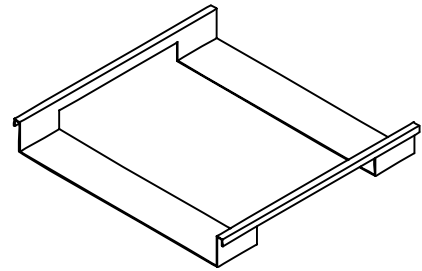
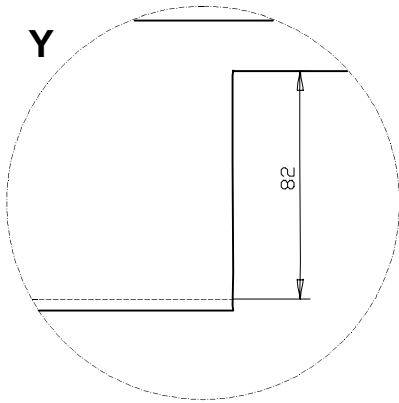
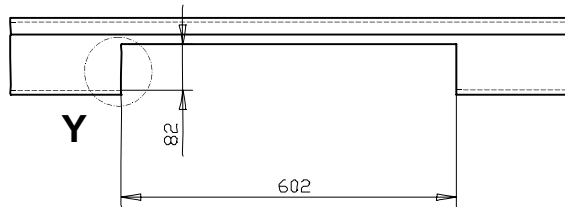
DIMENSIONS



A (INNER TROUGH WIDTH) = 300 – 1000 mm
B (TOTAL WIDTH) = A + 60 mm
s (THICKNESS) = TROUGH SHEET THICKNESS

OTHER DIMENSIONS AVAILABLE

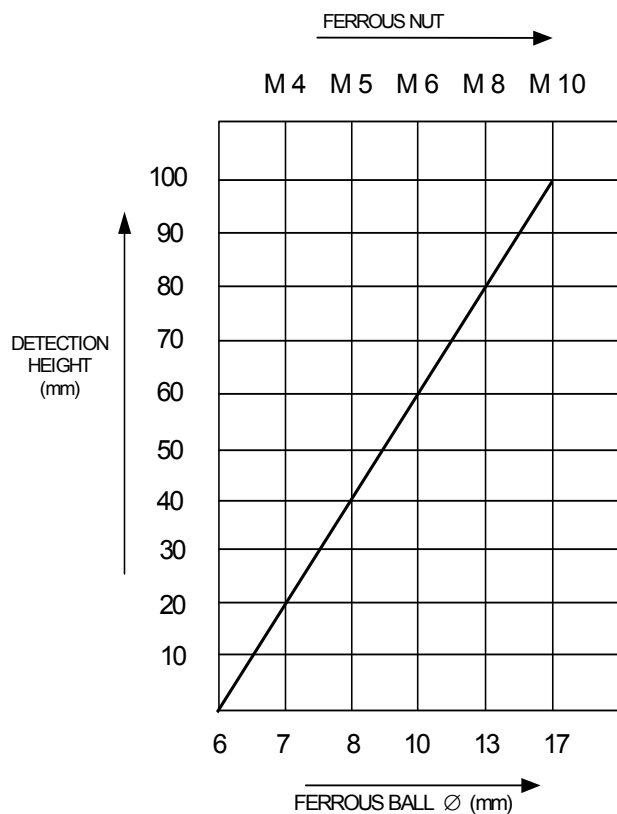
INSTALLATION



- ✓ CUT THE TROUGH ACCORDING TO THE DRAWING.
- ✓ INSTALL THE SENSING COIL.
- ✓ ALLOW FOR MOVEMENT OF THE INTERCONNECTING CABLES (COIL TO ELECTRONICS). FORM A 20 cm (8") LOOP WITH THE TRANSMITTER/RECEIVER CABLES AT THE COIL END.

SENSITIVITY DIAGRAM

THE SENSITIVITY IS DEPENDEND ON 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 FOR A 500 MM (20") WIDE DETECTOR COIL UNDER PROCESS CONDITIONS WITH WOOD WASTE. THE IMPACT OF HEAVY LOGS MAY CREATE DISTURBANCES WHICH MAY REDUCE THE SENSITIVITY!

- ✓ THE SENSITIVITY AGAINST NON-FERROUS AND STAINLESS STEEL IS NEARLY IDENTICAL TO THE SENSITIVITY AGAINST FERROUS CONTAMINANTS!

CONTROL UNIT AMD 05 (Version 5.0)

SINGLE BOARD DESIGN WITH BUILT IN REGULATED POWER SUPPLY FOR RELIABLE PERFORMANCE AND EASE OF SERVICE.

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

MULTI-FILTERSYSTEM USING DIGITAL FILTRATION FOR MAXIMUM STABILITY IN HARSH ENVIRONMENTS.

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

SELF MONITORING SYSTEM ENSURES ALL COMPONENTS ARE FUNCTIONING PROPERLY. IN CASE OF A FAULT, RELAY OUTPUTS ARE AVAILABLE AS WELL AS A ALPHA-NUMERIC DISPLAY ON SELECT MODELS.

NARROW DETECTION ZONE PROVIDES AN ACCURATE LOCATION OF THE METALLIC PARTICLE IN THE DETECTION FIELD ALLOWING PRECISE SEPARATION.

TOUCHPAD CONTROLS MODERN DESIGN. RUGGED TOUCHSCREEN FOIL WITH ERGONOMIC CONTROLS.

4 BUTTON TOUCHPAD CONTROLS SUPPORTED BY EASY TO UNDERSTAND MENUS FAST ACCESS TO ALL OPERATING PARAMETERS. USER SELECTABLE DIALOG LANGUAGE.

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

2-LEVEL PASSWORD PROTECTION WITH INTERCHANGEABLE CODE NUMBERS.

METAL COUNTER CAN BE DISPLAYED ON THE LCD SCREEN OR INTERFACED WITH A PRINTER OVER A SERIAL INTERFACE.



CE

PRODUCT STORAGE MEMORY BACKUP FOR UP TO 6 INDIVIDUAL PRODUCTS. EACH PRODUCT HAS A COMPLETE SET OF ADJUSTMENT DATA ASSIGNED, SUCH AS SENSITIVITY, REJECT TIME ETC. THE DISPLAY OF TIME RELEVANT DATA IS IN REAL-TIME. INDIVIDUAL PRODUCT NAMES CAN BE STORED AS WELL.

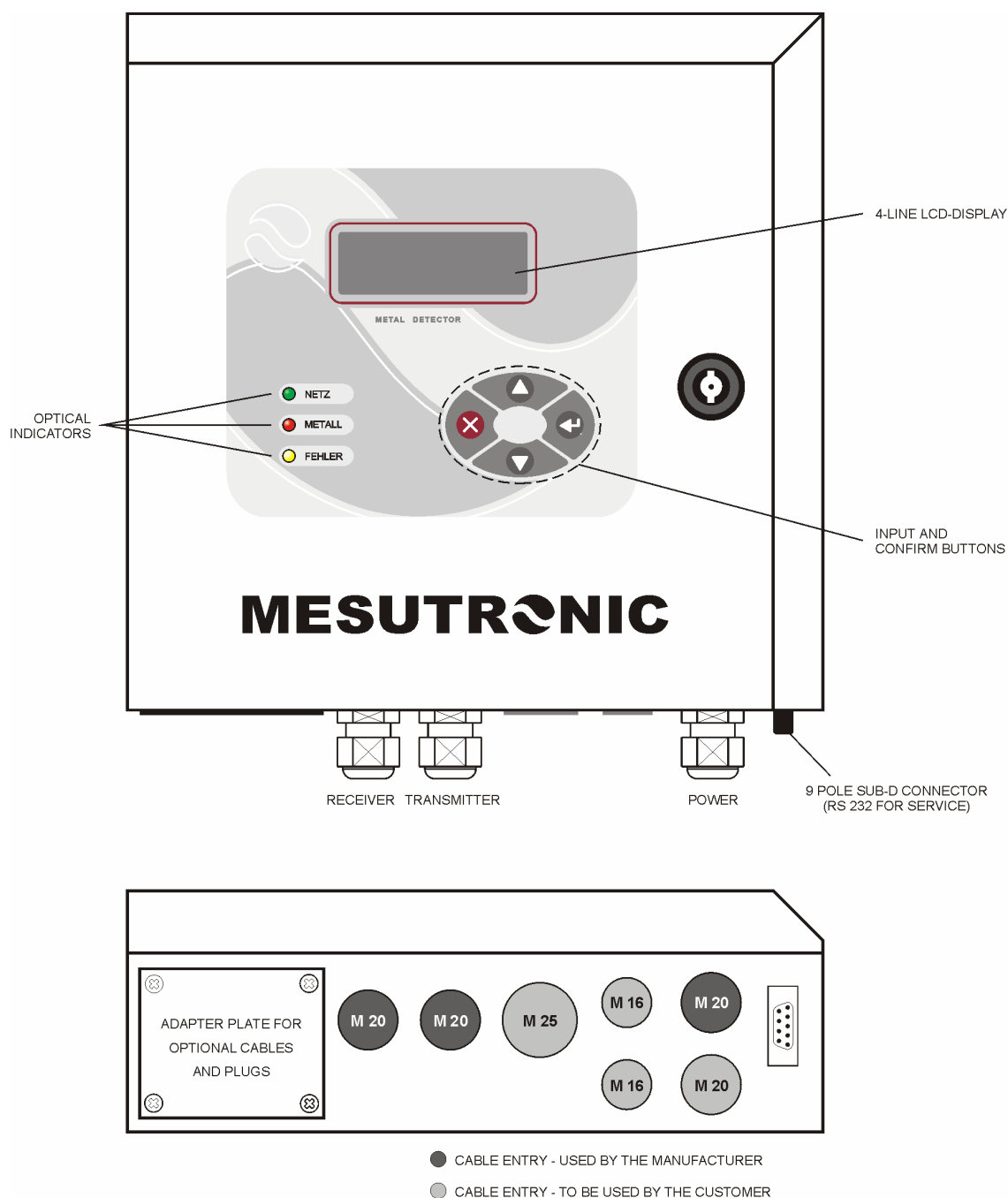
METAL DETECTOR NETWORK AND REMOTE SERVICE

EVERYTHING IS DO-ABLE! SEVERAL OPTIONAL SOFTWARE-PACKAGES ARE AVAILABLE EXAMPLE: WITH THE BUILT-IN CAN-BUS-DATAPORT A NETWORK OF UP TO 63 METAL DETECTORS / SEPARATORS CAN BE OPERATED. THE UNITS CAN THEN BE REMOTE CONTROLLED AND OPERATED VIA A CENTRAL PC. ALSO REMOTE DIAGNOSIS, PARAMETER CHANGE AND SOFTWARE UPDATES VIA MODEM ARE POSSIBLE.

SERIAL DATA PORTS FOR DIFFERENT TASKS. THE DETECTOR IS EQUIPPED WITH 3 SERIAL DATA PORTS. ONE OF THE PORTS (RS 232) IS RESERVED FOR FACTORY SERVICE (PRODUCT DATA PROTECTION, LOCAL SOFTWARE UPDATES ETC.) THE OTHER 2 PORTS ARE AVAILABLE FOR PRINTERS AND SUCH. THE PROTOCOL LAYOUT CONFORMS TO ISO 9000 AND HACCP GUIDELINES. BI-DIRECTIONAL DATA COMMUNICATION WITH CUSTOMER'S SPS OR PC SYSTEMS IS AVAILABLE. (OPTIONAL SOFTWARE PACKAGE)

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 EN, DIN, VDI/VDE, UVV AND CE REGULATIONS.

CONTROLS

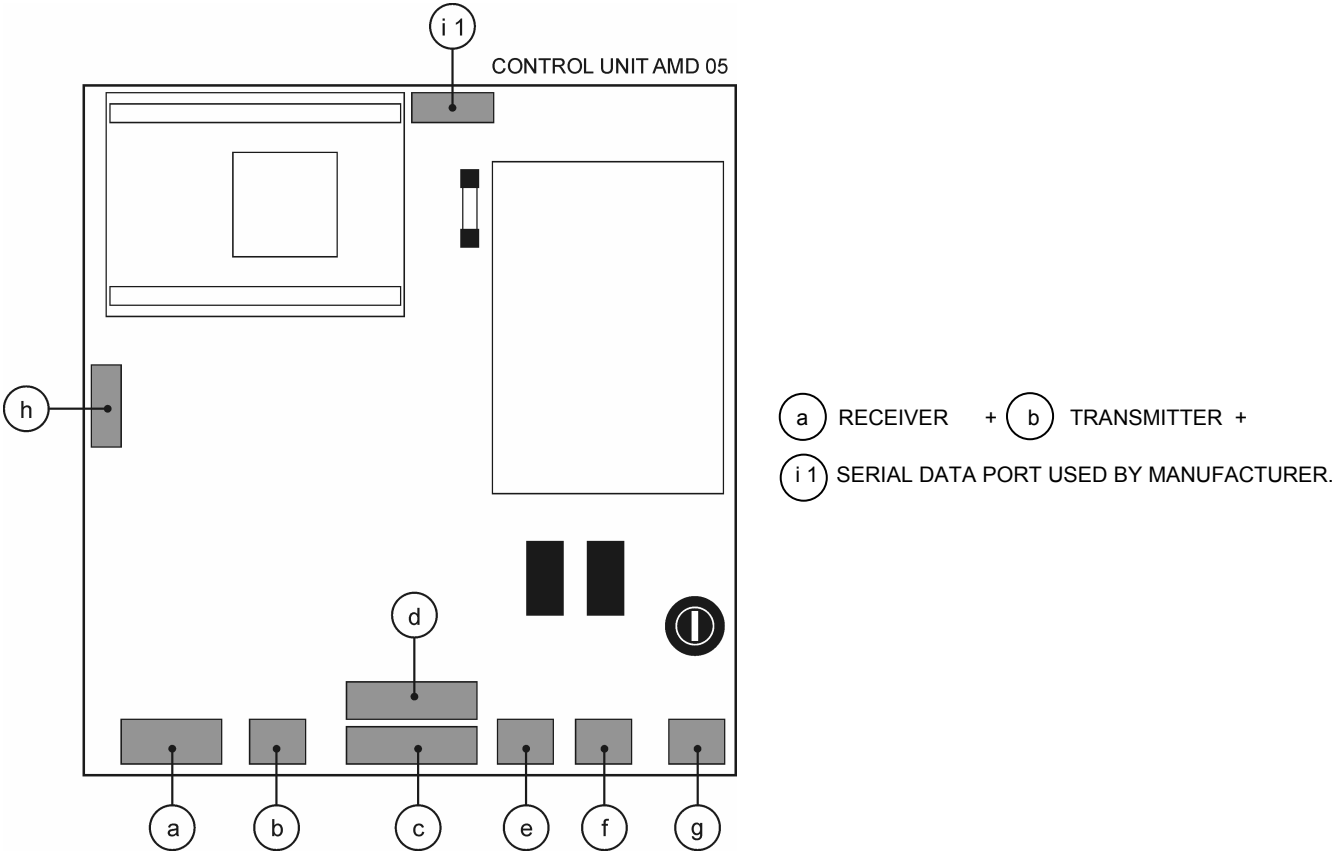


TECHNICAL DATA

POWER SUPPLY	: 100 – 240 V AC, 50/60 HZ
CURRENT CONSUMPTION	: MAX. 0,75 A
FUSE	: 315 MA (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	: 0.5 TO 10 M/SEC
PAINT	: RAL 3027 = RASPBERRY RED
MATERIALS	: DETECTOR HEAD AND CONTROL BOX MADE OF CARBON STEEL TROUGH PORTION MADE FROM DUROPLEX, THE WEAR SURFACE IS POLYPROPYLENE
INTERCONNECTING CABLES	: DETECTOR COIL / CONTROL BOX = 2 M LONG
POWER CABLE	: APP. 1,8 M CABLE WITH PLUG (TWO POLE AND EARTHING PIN) (US-VERSION WITH US-STANDARD PLUG)

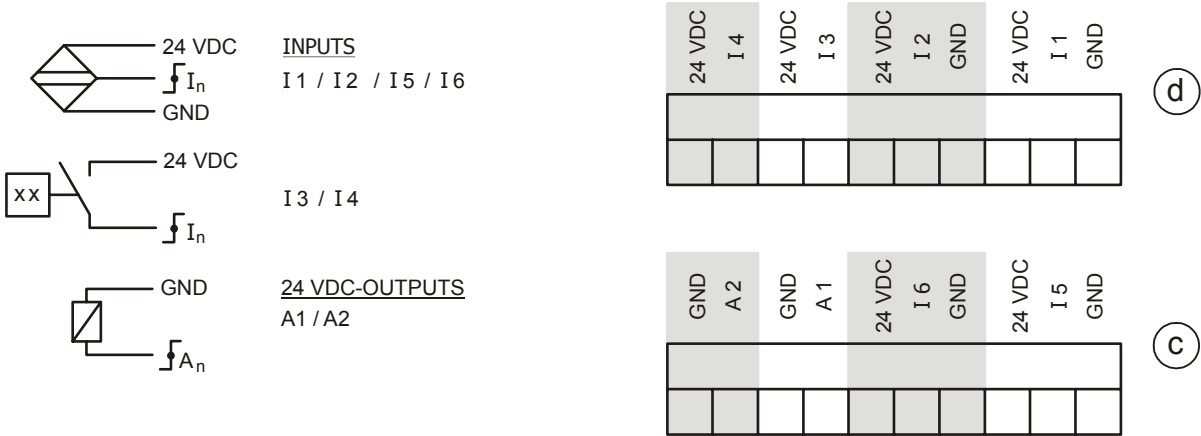
OTHER VERSIONS AVAILABLE

INPUTS AND OUTPUTS



c + d FUNCTION BLOCK

CONNECTION EXAMPLES



INPUTS AND OUTPUTS ARE USED ACCORDING TO PRODUCT REQUIREMENTS.
MAX. LOAD FOR ALL INPUTS AND OUTPUTS I_{TOTAL} = 300 mA CUMULATIVE !

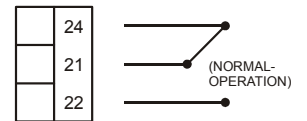
STANDARD LAYOUT

- I 1 NOT CONNECTED
- I 2 NOT CONNECTED
- I 3 NOT CONNECTED
- I 4 RESET BUTTON, EXTERN
- I 5 NOT CONNECTED
- I 6 NOT CONNECTED
- A 1 METAL
- A 2 UNIT OPERATIONAL INDICATOR

INPUTS AND OUTPUTS

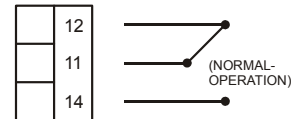
e RELAY 2 (OPERATIONAL)¹⁾

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



f RELAY 1 (METAL)¹⁾

- ♦ FLOATING RELAY-CHANGE OVER CONTACT ACTUATED WHEN METAL IS DETECTED
MAX. CONTACT LOAD : 250 V / 3 A
PULSE DURATION (AUTO-RESET) : 0,1 SEC. TO 10 SEC. (ADJUSTABLE)
PULSE DURATION (RESET BY HAND) : PERMANENT SIGNAL UNTIL RESET-BUTTON IS PRESSED



g POWER SUPPLY

- ♦ 100 – 240 V AC, 50/60 Hz, CURRENT CONSUMPTION: MAX. 750 MA
OTHER VERSIONS AVAILABLE



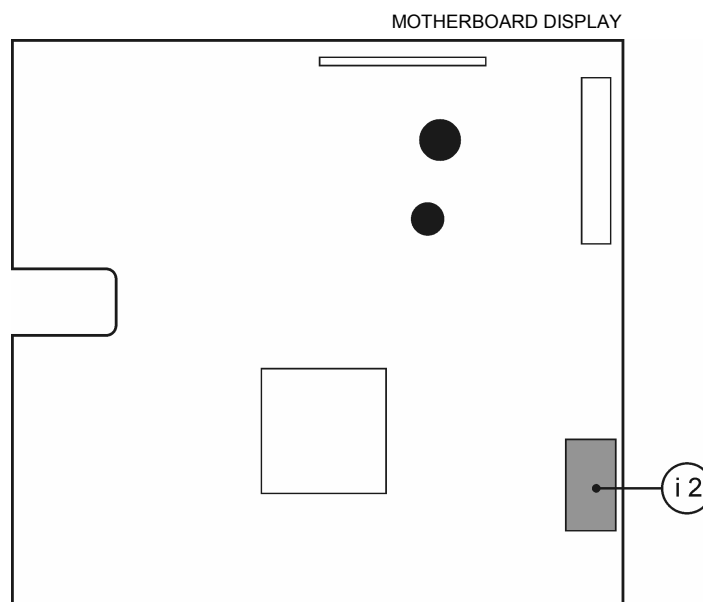
h CAN – BUS DIGITAL INTERFACE

i 2 SERIAL DIGITAL INTERFACES

- ♦ 1 x AS SELECTED: RS 232, 422, 485
(LAID OUT FOR RS 232, UNLESS OTHERWISE SPECIFIED)
- ♦ 1 x ONLY FOR RS 232

1) STANDARD PROGRAMMING

OTHER GIVEN OPERATIONS ARE POSSIBLE
(PLEASE CONTACT OUR APPLICATION TEAM)



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.

Our knowledge is our strength

MESUTRONIC

Strength is always being available

MESUTRONIC®

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SUBJECT TO MODIFICATION!