

# METAL DETECTOR

## METRON 05 VT

### RELIABLE DETECTION OF ALL METALS:

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

RELIABLE DETECTION OF FREE OR ENCAPSULATED CONTAMINANTS.

Version 05/18



### METAL DETECTOR FOR VIBRATORY CONVEYORS.

#### INDUSTRIES

- TIMBER INDUSTRY

#### APPLICATION

- MACHINERY PROTECTION E. G.:
- CHIPPERS
- .....

[www.mesutronic.de](http://www.mesutronic.de)

# MESUTRONIC

*Metal Detection made in Germany*

- 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 5.2) ELECTRONICS

## MODELS

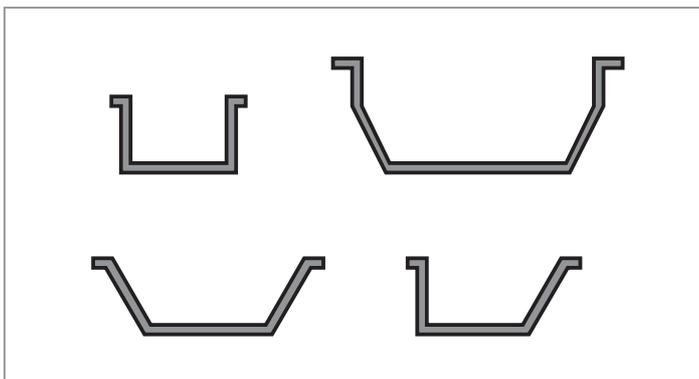


EXAMPLE 1



EXAMPLE 2

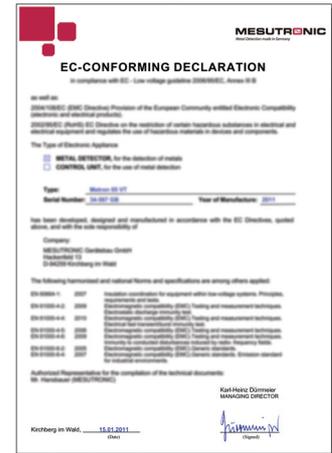
## SUMMARY



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

## SCOPE OF DELIVERY

- DETECTOR HEAD
- ELECTRONICS MOUNTED IN A METAL CABINET
- INTERCONNECTING CABLES
- USER MANUAL INCL. INSTALLATION INSTRUCTIONS, WIRING DIAGRAM AND SPARE PARTS LIST IN SEVERAL LANGUAGES
- EG CONFORMITY DECLARATION



## OPTIONAL EQUIPMENT

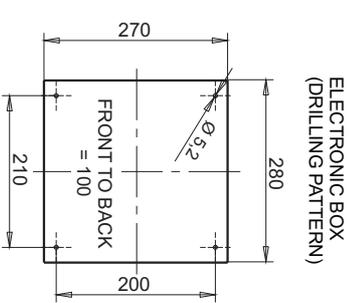
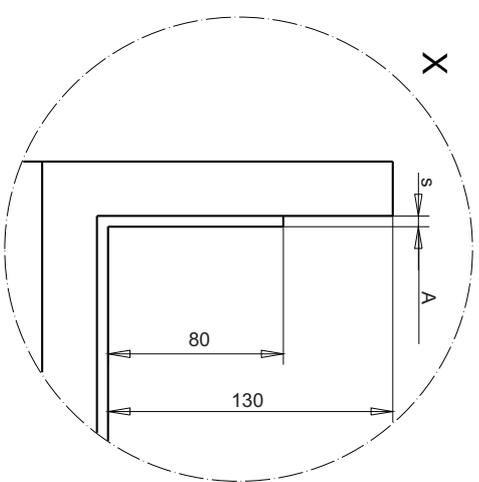
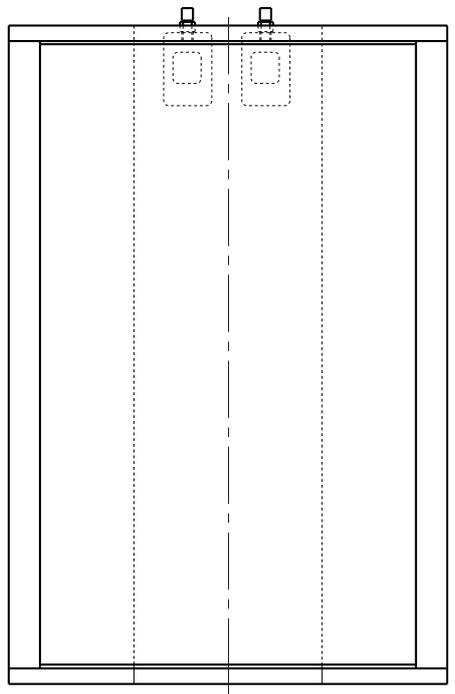
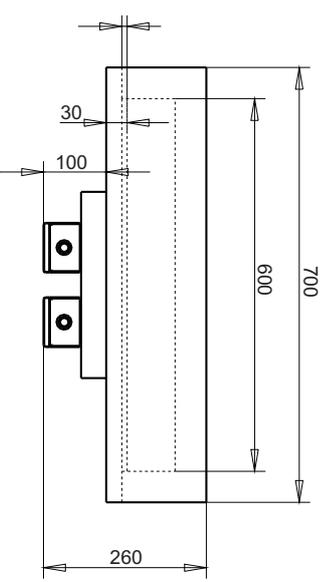
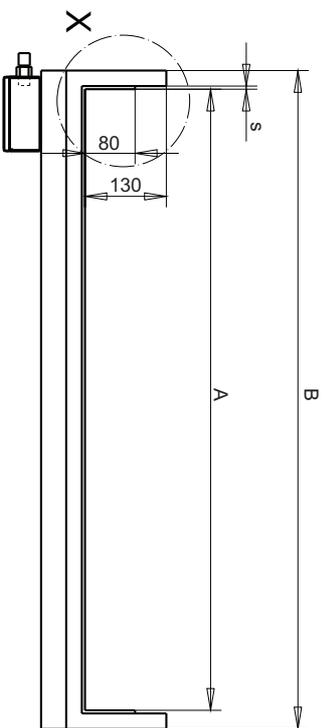
- WARNING DEVICE
  - BEACON
  - BUZZER
  - BEACON WITH SIREN
- REMOTE RESET DEVICE
- VISUAL MARKER
  - INK JET SYSTEM
- CUSTOMIZED SOFTWARE SOLUTIONS
  - SPECIAL CONTROL OPERATIONS
  - DATA TRANSFER
- POWER CONDITIONER
  - MAGNETIC VOLTAGE STABILIZER
  - ELECTRONIC VOLTAGE STABILIZER

## SPECIAL VERSIONS

- DETECTOR HEAD AND CONTROL BOX IN STAINLESS STEEL
- EXPLOSION PROOF (PROTECTION TYPE IP 65)
- CUSTOM PAINT
- SPECIAL POWER SUPPLY
- ALUTRON-VERSION (NO FALSE TRIPPING BY METALLIC FILMS SUCH AS CUP LIDS, .....,) PATENT-NO. 4342826
- NEUTRAL DELIVERY WITH INDIVIDUAL LABELING



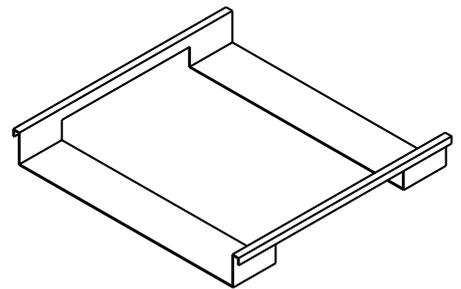
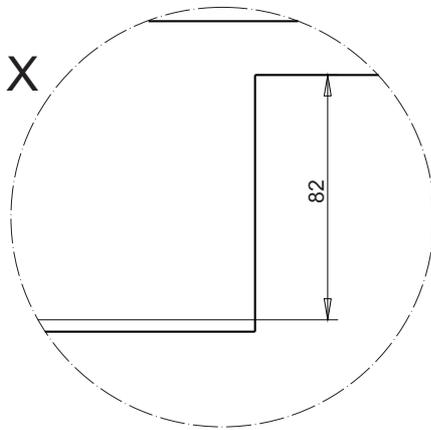
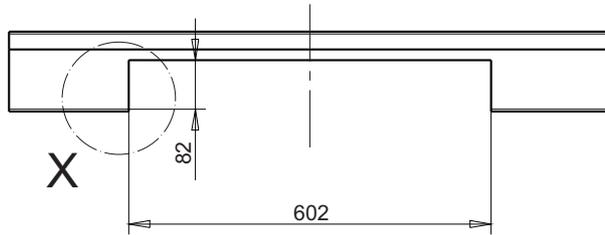
# DIMENSIONS



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

ALL DIMENSIONS IN MM. OTHER DIMENSIONS AVAILABLE.

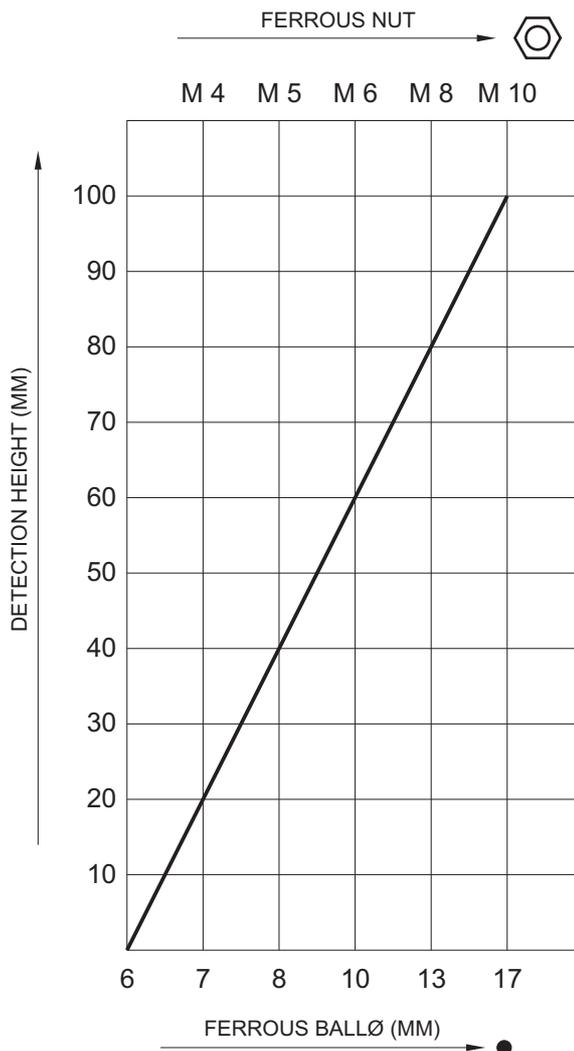
## INSTALLATION



- 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 DEPENDENT 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 5.2)

ADVANTAGES THAT WILL CONVINCE YOU!

**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-FILTER SYSTEM** 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 IMPORTANT COMPONENTS ARE FUNCTIONING PROPERLY. IN CASE OF A FAULT, RELAY OUTPUTS ARE AVAILABLE. FAULTS ARE DISPLAYED AS TEXT IN REAL TIME.

**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. USERS SELECTABLE DIALOG LANGUAGE.

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

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

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



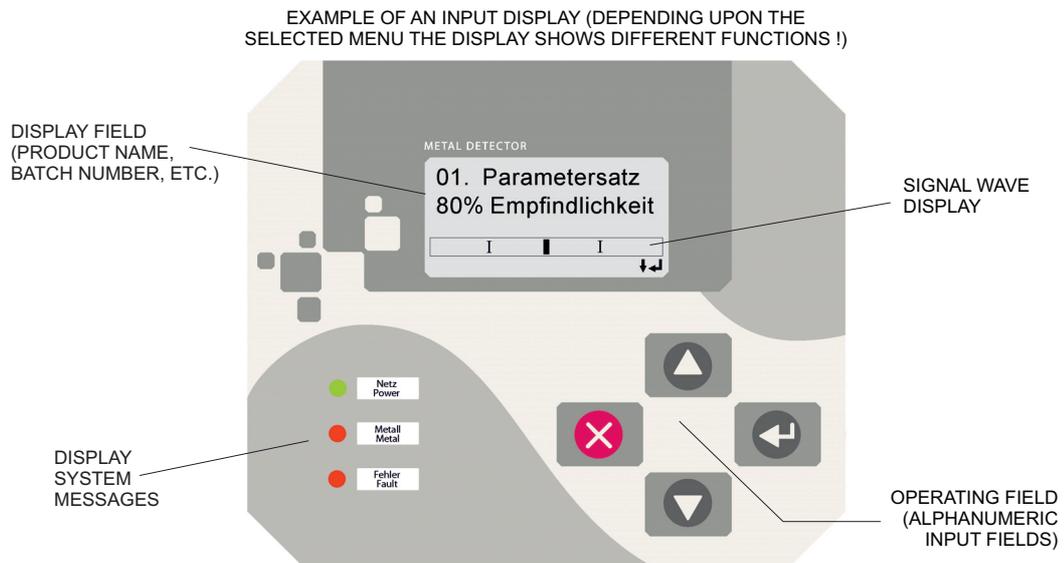
**PRODUCT STORAGE MEMORY BACKUP** FOR UP TO 500 INDIVIDUAL PRODUCTS. EACH PRODUCT HAS A COMPLETE SET OF ADJUSTMENT DATA ASSIGNED SUCH AS SENSITIVITY, REJECT TIME ETC. THE DISPLAY OF TIME RELEVANT DATA IS IN REAL-TIME. INDIVIDUAL PRODUCT NAMES CAN BE STORED AS WELL.

**METAL DETECTOR NETWORK AND REMOTE SERVICE** EVERYTHING IS DO-ABLE! SEVERAL OPTIONAL SOFTWARE-PACKAGES ARE AVAILABLE. EXAMPLE: WITH THE BUILT-IN CAN-BUS-DATA PORT A NETWORK OF UP TO 125 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.

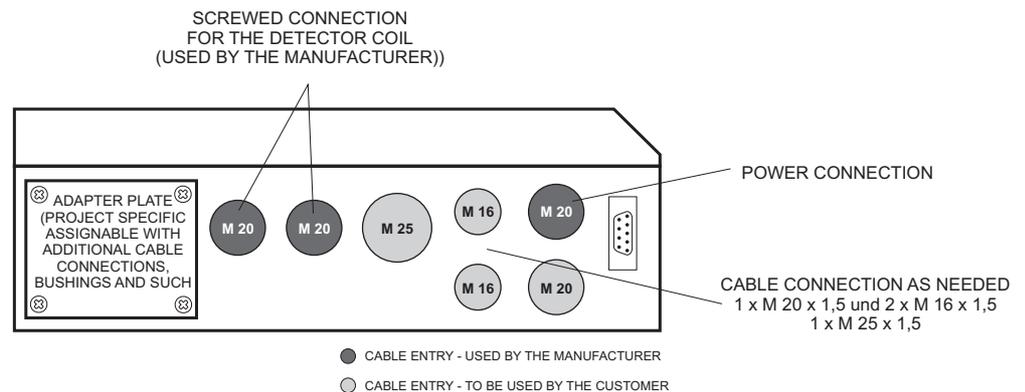
**SERIAL DATA PORT** FOR DIFFERENT TASKS. THE METAL DETECTOR IS EQUIPPED WITH 1 SERIAL DATA PORT (RS 232). HOWEVER THIS PORT IS RESERVED FOR FACTORY SERVICE ACCESS SUCH AS ADJUSTMENT DATA LOGGING, SOFTWARE UPDATES ETC.) AS AN OPTION, THIS DATA PORT MAY ALSO BE USED BY THE CLIENT (SWITCHABLE). IT CAN BE USED TO DRIVE A LOCAL OR CENTRAL PROTOCOL PRINTER. THE PROTOCOL LAYOUT CONFORMS TO ISO 9000 AND HACCP GUIDELINES. BI-DIRECTIONAL DATA COMMUNICATION WITH CUSTOMERS' SPS OR PC SYSTEMS IS AVAILABLE (OPTIONAL SOFTWARE PACKAGE).

**ACTIVE QUALITY ASSURANCE** WITH SMD COMPONENTS SAVE NOT ONLY SPACE BUT ALSO ASSURE OPTIMUM QUALITY AND SAFETY FOR THE END USER. WITH AUTOMATED PLACEMENT COMPONENT ERRORS ARE ELIMINATED. IN ADDITION EACH CARD IS 100% TESTED AND ARTIFICIALLY AGED. ALL MESUTRONIC PRODUCTS ARE DEVELOPED UNDER DIN, EN AND UVV STANDARDS AND COMPLY WITH THE STRICT CE STANDARDS AS WELL.

## CONTROLS



## ELECTRONIC BOX

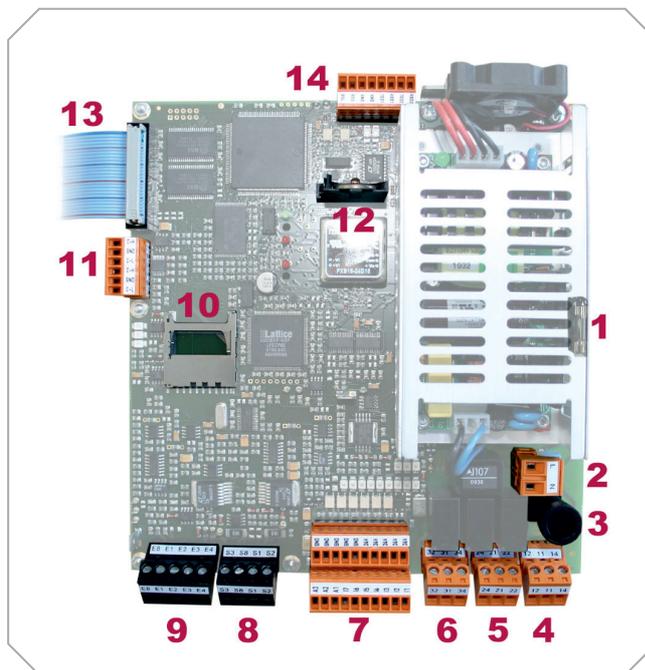


## TECHNICAL DATA

POWER SUPPLY:	100 – 240 V AC, 50/60 HZ
POWER CONSUMPTION:	MAX. 50 W
FUSE:	1,25 A (SLOW BLOW); 5 X 20 MM ACCORDING 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:	0 - 95 % (WITHOUT CONDENSATION)
CONVEYING SPEED:	0,05 TO 1,5 M/SEC. (FASTER SPEED ON REQUEST)
PAINT:	RASPBERRY RED = RAL 3027
MATERIALS:	DETECTOR HEAD AND CONTROL BOX MADE OF STEEL (ST 37), SENSOR AREAS MADE OF DUROPLEX
CONTROL BOX:	INTERCONNECTING CABLE = 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

## LAYOUT AMD 05



- 1** SPARE FUSE
- 2** POWER SUPPLY 100 - 240 VAC, 50/60 HZ
- 3** DEVICE FUSE 1,25 A (SLOW BLOW) 5 x 20 MM ACCORDING TO DIN



- 4** RELAY 1 (SWITCHES NORMALLY ON METAL)  
POTENTIAL FREE CONTACT  
FROM FACTORY (IF NOT REQUESTED OTHERWISE)  
RELAY 1 IS DESTINATED AS METAL-RELAY  
MAX. CONTACT LOAD: 250 V/3 A



- 5** RELAY 1 (SWITCHES NORMALLY ON OPERATION)  
POTENTIAL FREE CONTACT  
ASIDE FROM THE OPTICAL DISPLAY A POTENTIAL FREE  
CONTACT IS AVAILABLE TO POLL THE UNIT CONDITION  
MAX. CONTACT LOAD: 250 V/3 A



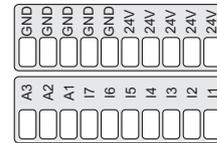
- 6** RELAY 3 (TO BE CONFIGURED BY THE MANUFACTURER)  
POTENTIAL FREE CONTACT  
MAX. CONTACT LOAD: 250 V/3 A



## LAYOUT AMD 05

- 7** SEVEN (7) FREE PROGRAMABLE INPUTS (24V DC)  
AND THREE (3) FREE PROGRAMABLE OUTPUTS (24V DC)

In1 - INITIATOR / BUTTON „NORMAL POSITION“  
In2 - INITIATOR / BUTTON „EJECT POSITION“  
In3 - AIR PRESSURE MONITOR (PRESSURE SWITCH)  
In4 - INPUT LIGHT BARRIER  
In5 - POSITION SENSOR  
In6 - EXTERNAL RESET BUTTON  
In7 - NOT CONNECTED



THREE (3) FREE PROGRAMABLE OUTPUTS (24V DC)  
OUTPUTS (STANDARD LAYOUT)  
OUT 1 - 24 V OUTPUT METAL  
OUT 2 - 24 V OUTPUT READY  
OUT 3 - NOT CONNECTED

ADDITIONAL CONTACT POSSIBILITIES: LEVEL SENSORS AND MORE

MAX. LOAD FOR ALL INPUTS AND OUTPUTS  $I_{TOTAL} \leq 300 \text{ MA CUMULATIVE!}$

- 8** CONNECTION SENDER (USED BY FACTORY)  
**9** CONNECTION RECEIVER (USED BY FACTORY)  
**10** SLOT FOR SD MEMORY CARD  
**11** CAN – BUS DATA PORT  
**12** BATTERY  
**13** CONNECTION DISPLAY (USED BY FACTORY)  
**14** SERIAL DATA PORT (USED BY FACTORY)

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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