METAL DETECTOR

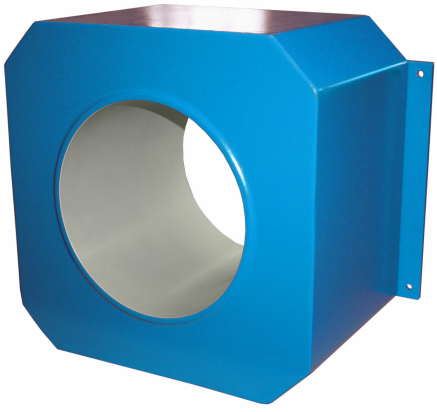
METRON 05 CR

Version 10/11

RELIABLE DETECTION OF ALL METALS:

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

RELIABLE DETECTION OF FREE OR ENCAPSULATED CONTAMINANTS.



CLOSED TUNNEL TYPE DETECTOR WITH CIRCULAR APERTURE FOR INSTALLATION GRAVITY OR VACUUM/PRESSURE CONVEYING LINES, ...

INDUSTRIES

- CHEMICAL/PHARMACEUTICAL INDUSTRY
- FOOD INDUSTRY
- SPICE INDUSTRY
- PET FOOD INDUSTRY
- PLASTICS AND RUBBER INDUSTRY

APPLICATIONS

- QUALITY INSPECTION (TO MEET THE REQUIREMENT OF ISO 9000, HACCP, IFS, BRC, SQF, ...)
- MACHINERY PROTECTION

THE INTEGRATED SIGNAL PROCESSOR (DSP) IS THE PRECONDITION FOR DIGITAL, 2 CHANNEL SIGNAL PROCESSING, EVEN WITH CONVEYING SPEEDS AS HIGH AS 30 METERS/SEC.

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STANDARD SCOPE OF DELIVERY

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EC-CONFORMING DECLARATION

- DETECTOR HEAD WITH INTEGRAL CONTROL ELECTRONICS
- CONTROL UNIT INCL. POWER SUPPLY AND DISPLAY IN SEPARATE HOUSING
- POWER- AND CONNECTING CABLE
- USER MANUAL INCL. INSTALLATION INSTRUCTIONS, WIRING DIAGRAM AND SPARE PARTS LIST IN SEVERAL LANGUAGES
- EC CONFORMITY DECLARATION

OPTIONAL EQUIPMENT

METAL DETECTOR-TEST SPHERES	- METAL SPHERE(S) ENCASED IN PLASTIC TO VERIFY SENSITIVITY - SEVERAL SIZES AND TYPES – (IF DESIRED WITH CERTIFICATE)
WARNING DEVICE	- BEACON - BUZZER - BEACON WITH SIREN
PLASTIC SENSING TUBES	- WITH TRANSITIONS - WITH FUNNEL - WITH FLANGES - .....
DETECTOR FRAME	- A VARIETY OF VERSIONS TO SUIT REQUIREMENTS
REJECT SYSTEMS	- FLAP VALVE SYSTEMS FOR BULK MATERIALS - 3-WAY BALL VALVES - ….
SOFTWARE SOLUTIONS	- MESUSET (OPERATION OF DETECTOR VIA LAPTOP) - MESUNET (NETWORK INTEGRATION AND REMOTE MAINTENANCE) - AND MORE
HARD COPY PRINTER	- WITH RS 232 CONNECTION (MAX. CABLE LENGTH OF 100 METERS) - WITH RS 422 CONNECTION (MAX. CABLE LENGTH OF 1200 METERS)
REMOTE RESET DEVICE	
VISUAL MARKERS	- INK JET SYSTEM - BAG DROP SYSTEM - AND MORE
POWER CONDITIONER	- MAGNETIC VOLTAGE STABILIZER - ELECTRONIC VOLTAGE STABILIZER

SPECIAL VERSIONS

ZERTIFIKAT • CERTIFICATE • CERTIFICADO • CERTIFICAT

EG – Konformitätsbescheinigung

- EXPLOSION PROOF VERSION
- CUSTOM PAINT
- SPECIAL POWER SUPPLY
- HIGH TEMPERATURE VERSION
- ALUTRON-VERSION (SUPPRESSION OF INTERFERENCE SIGNALS FROM METALISED FOILS OR ALUMINIUM VAPOR FOILS)
  PATENT NO. 4342826

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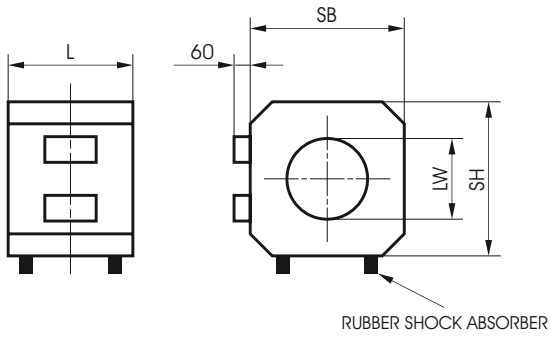
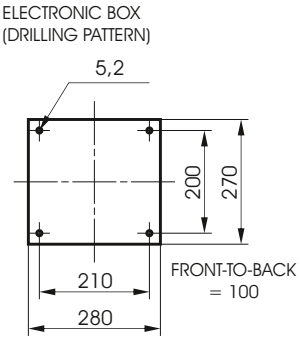
DIMENSIONS

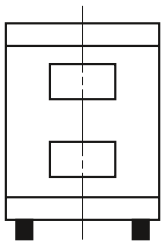




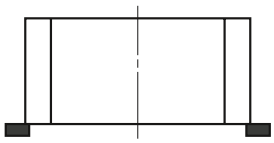
IN CASE OF INSUFFICIENT SPACE CUSTOM BUILT DETECTION COILS WITH SMALLER DIMENSIONS MAY BE MANUFACTURED UPON REQUEST.

LW = Typ CLEAR WIDTH	SB = SH DETECTOR HEIGHT= DETECTOR WIDTH	L DETECTOR LENGTH
35	150	125
45	150	125
55	150	125
70	150	125
85	200	150
100	200	150
115	250	150
130	250	150
150	250	200
170	300	200
210	350	250
235	400	300
265	450	300
300	500	350
335	550	400
380	600	450
430	650	500
470	700	500
525	750	600
600	850	700

ALL DIMENSIONS I MM.



HORIZONTAL MOUNTING



VERTIKAL MOUNTING

NOTICE

THE MANNER OF TIGHTENING DEPENDS ON THE SIZE OF THE DETECTOR AND ON THE WAY OF APPLICATION. WE WILL GLADLY FURNISH YOU INDIVIDUAL DIMENSIONAL DATA SHEETS AFTER CLARIFICATION OF THE DETAILS.

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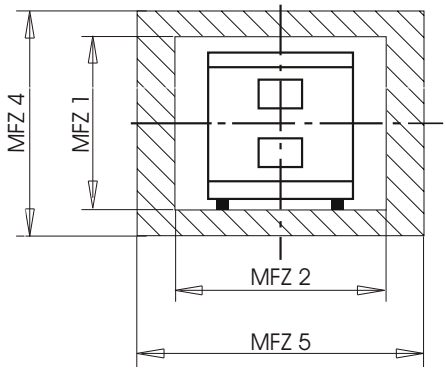
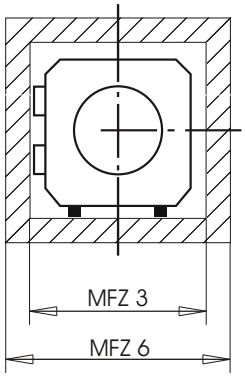
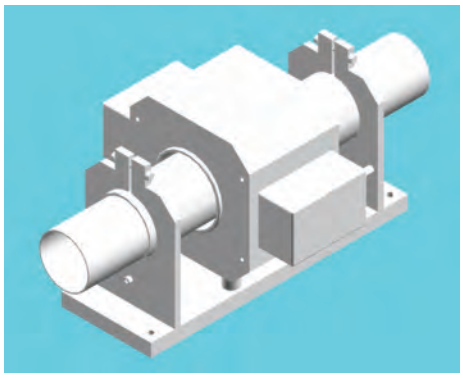
METAL FREE ZONE (MFZ)





CALCULATING THE „METAL FREE ZONE" …

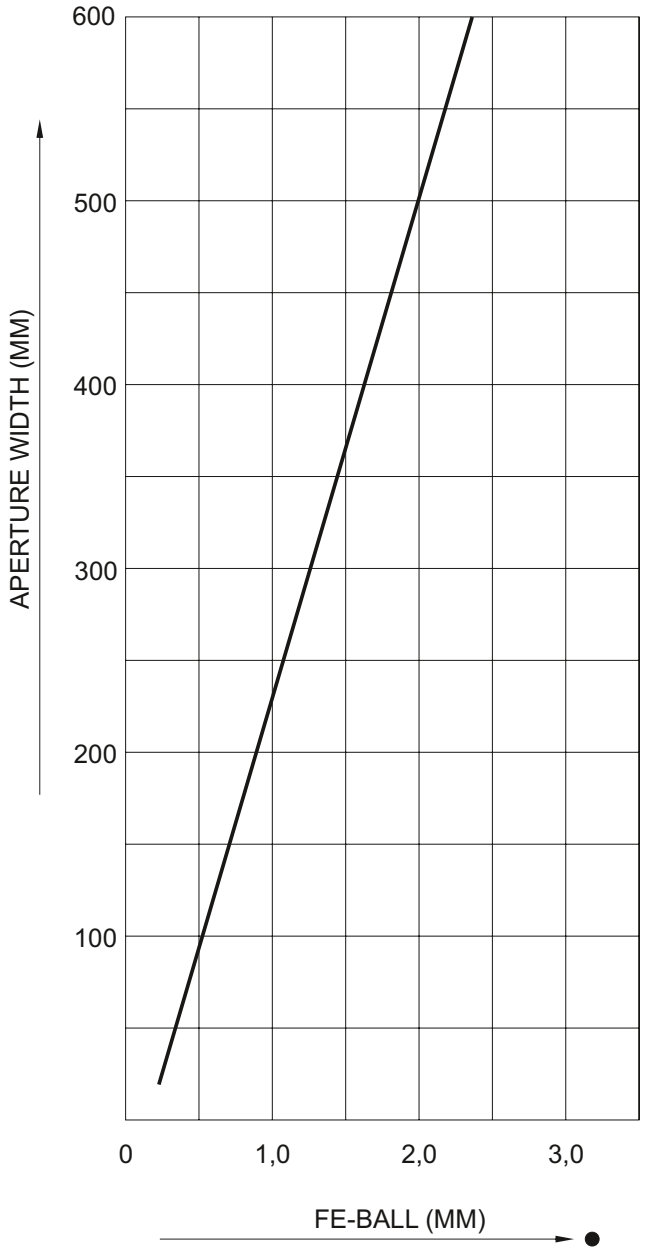
FOR NON-MOVING METALS	FOR MOVING METALS
MFZ 1 = SH + 60 MM	MFZ 4 = 4 LW + 30 MM
MFZ 2 [1)] = L + LW	MFZ 5 [1)] = L + 3,5 LW
MFZ 3 =2 LW	MFZ 6 = 4 LW



[1)] POSITION THE DETECTOR APERTURE IN THE MIDDLE OF THE „METAL FREE ZONE".
FOR THE OTHER LEVELS (MFZ 1, 3, 4 AND 6): POSITION THE DETECTOR SYMMETRICAL IN RELATION TO THE APERTURE.

THE CALCULATED DIMENSIONS ARE TO BE TAKEN AS ORIENTATION VALUES (MINIMUM VALUES WHICH SHOULD BE EXCEEDED) AND HAVE TO BE VERIFIED BY THE MANUFACTURER, DEPENDING ON THE PROJECT. MAKE THE „METAL FREE ZONE" AS LARGE AS POSSIBLE. „NON-MOVING METALS" ARE FOR EXAMPLE, PARTS OF THE COIL FRAME. „MOVING METAL PARTS" ARE AXLES AND ROLLERS. PAY PARTICULAR ATTENTION TO MOVING GATES AND MACHINES OR MACHINE PARTS WHICH CHANGE THEIR DISTANCE TO THE METAL DETECTOR OR WHICH MOVE IN THE VICINITY OF THE APERTURE.
IF THE "METAL FREE ZONE" CANNOT BE MAINTAINED DUE TO SPACE RESTRICTIONS FALSE REJECTS AND OR REDUCED SENSITIVITY CAN BE EXPECTED. IN ADDITION, PLEASE OBSERVE OUR„ HINTS FOR THE INSTALLATION OF SEARCH COILS".

SENSITIVITY



THE SENSITIVITY DEPENDS ON THE APERTURE SIZE I.E. THE SMALLER THE APERTURE HEIGHT THE GREATER THE SENSITIVITY.

BASE SENSITIVITY

THE SENSITIVITIES SHOWN IN THE ADJACENT DIAGRAM WERE ACHIEVED IN THE APERTURE CENTRE UNDER SIMULATED PROCESS CONDITIONS - POSSIBLE PRODUCT EFFECTS HAVE NOT BEEN CONSIDERED.

SENSITIVITY UNDER OPERATING CONDITIONS

IF YOU SEND US SOME PRODUCT SAMPLES, WE WOULD BE PLEASED TO DO A TEST AND QUOTE THE BEST SENSITIVITY.

TO CALCULATE SENSITIVITY FOR OTHER METALS USE THE FOLLOWING MULTIPLICATION FACTOR.
VA (STAINLESS STEEL) = FE-BALL X 1 TO 2
(FACTOR DEPENDS ON THE METAL ALLOY)
CU, ALU, BRASS... = FE-BALL X 1,2 TO 1,8
(FACTOR DEPENDS ON THE METAL TYPE)

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 PARAMETERES. USER 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 CUSTOMER'S 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.

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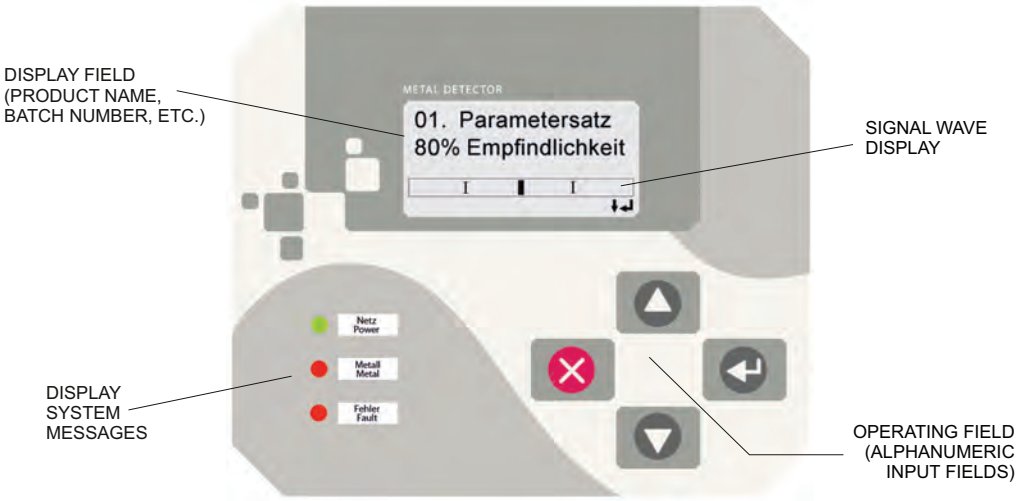
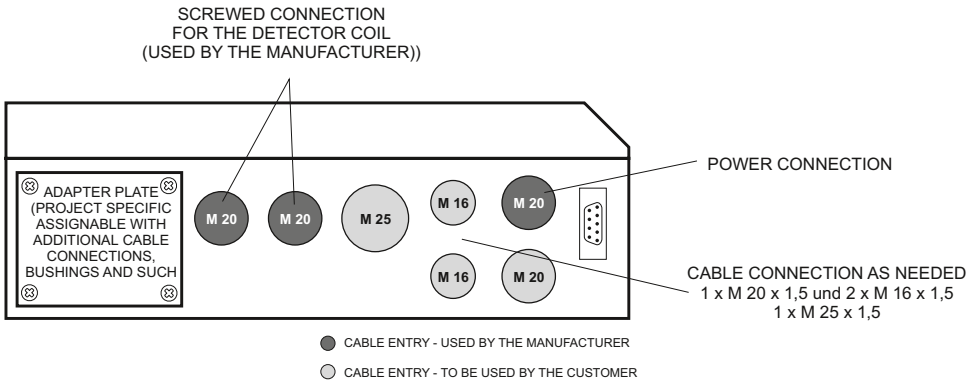
METRON 05 CR

CONTROLS

EXAMPLE OF AN INPUT DISPLAY (DEPENDING UPON THE SELECTED MENU THE DISPLAY SHOWS DIFFERENT FUNCTIONS !)



ELECTRONIC BOX



TECHNICAL DATA

POWER SUPPLY:	100 V - 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:	- 10° C TO + 50° C
STORAGE TEMPERATURE:	- 10° C TO + 60° C
REL. HUMIDITY:	0 - 95 % (WITHOUT CONDENSATION)
CONVEYING SPEED:	0,05 M/SEC. TO 1,5 M/SEC. (HIGHER SPEED ON REQUEST)
MATERIAL:	DETECTION COIL IS MADE OF ALUMINIUM, OPTIONAL STAINLESS STEEL; ELECTRONIC CABINETS IS MADE OF STEEL (ST 37), SENSING AREAS ARE MADE OF DUROPLEX
ELECTRONIC BOX:	WITH 2 M CONNECTING CABLE (STANDARD) OR BUILT-ON (OPTIONAL)
POWER CABLE:	APP. 1,8 M CABLE WITH PLUG (TWO POLE AND EARTHING PIN) (US-VERSION WITH US-STANDARD PLUG)

:OTHER VERSIONS AVAILABLE

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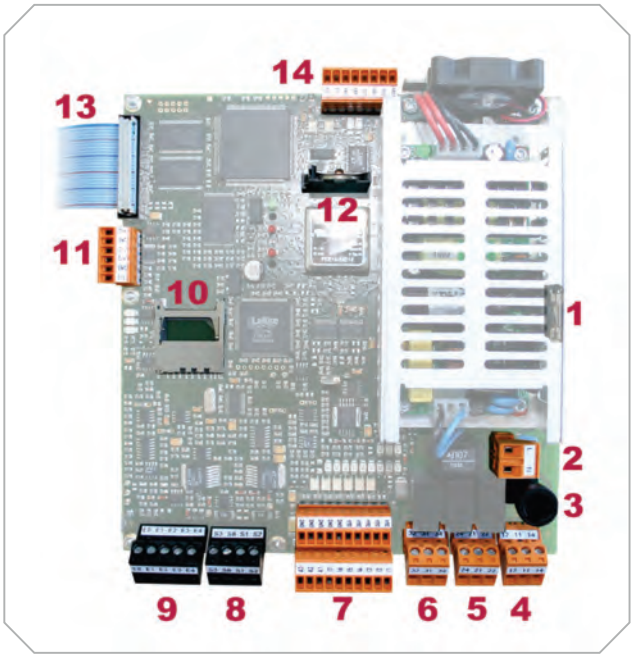
LAYOUT AMD 05



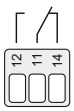
1 SPARE FUSE

2 POWER SUPPLY 100 - 240 VAC, 50/60 HZ

3 DEVICE FUSE 1,25 A (SLOW BLOW) 5 x 20 MM ACCORDING TO DIN

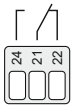
4 RELAY 1 (SWITCHES NORMALLY ON METAL)

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



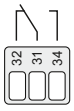
5 RELAY 1 (SWITCHES NORMALLY ON OPERATION)

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)

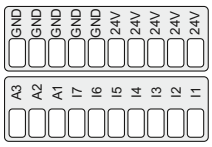
POTENTIAL FREE CONTACT
MAX. CONTACT LOAD: 250 V/3 A



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 $I_{TOTAL} \leq 300$ 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)

Service and Calibration

Bunting service engineers are available at short notice to service and calibrate our full range of detectors in the UK and overseas. Bunting offers 3 levels of protection designed to provide specific services to optimise the performance and lifespan of metal detection equipment

Pro-Start™

Pro-Start™ commissioning coverage ensures that a metal detector performs to company expectations from its first day on the job. A factory-trained service technician will be on-site to verify the installation, calibrate the metal detector to achieve top performance and train personnel. Pro-Start includes a calibration label for the detector, a complimentary set of test pieces (specify size and type on purchase) and a detailed calibration record for company files. It also extends the original one-year factory warranty to two years and includes two years of phone-based technical support.

Pro-Maintenance™

Pro-Maintenance™ keeps the metal detector operating like new, which is critical, considering the impact of poor performance on customer satisfaction and other consequences. It provides either annual (Gold plan) or biannual (Platinum plan) visits by factory-trained service technicians to service and calibrate the metal detector and ensure the system is running the latest accurate software. The Pro-Maintenance plan also includes significant parts and labour discounts on any needed spares and repair work, on-site training for personnel during service & calibration visits and two years of phone based technical support.

BRITISH RETAIL CONSORTIUM
for successful and responsible retailing

SQF INSTITUTE

international food standard
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Burnt Meadow Road, Redditch, Worcestershire, UK, B98 9PA
Tel: +44(0)1527 65858
E-Mail: sales.redditch@buntingmagnetics.com • www.mastermagnets.com