NOTE

All numerical values are in metric units. Dimensions are in millimeters. Unless otherwise specified, dimensions follow the specification shown with the product drawing. Figures and illustrations are for identification only and are not drawn to scale. As an abstract, the appendix shows specifications which are ready for a download in higher resolution.

DANGER

To avoid injury, do not plug or unplug these connectors from the counterpart while they are under electrical load.

1. INTRODUCTION

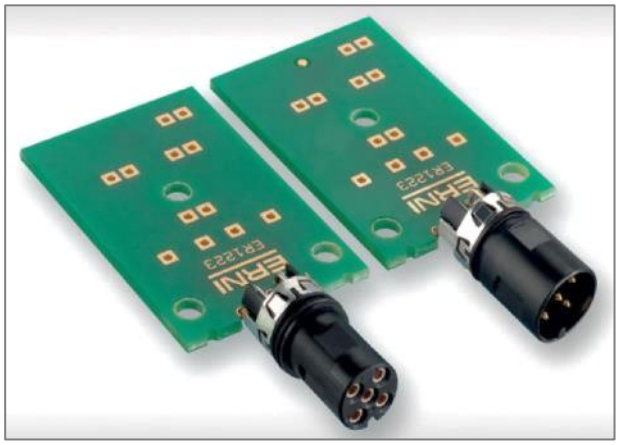
This specification covers the requirements for an application in M12 header assemblies mounted on printed circuit boards (PCB) used with a rear or front panel integration. In → App./ Chap. 6.22 -6.25, the mounting as **sensor housing** is described → App./ Chap.6.5+6.6. All headers are designed for use with connector cable assemblies as counter parts in industrial equipment and control, signal, and electrical appliances. The application plugged cable assembly into headers on a PCB have an ingress protection rating of IP67 so far equipped with seals according to this specification. Usually that application requires a front panel as part of the protection. For several headers placed adjacent within the same application keep the minimum distance according to details in → App./ Chap. 6.4.

The connectors consist of a female (receptacle) or a male (pin) for a free-hanging cable assembly. Those products can be found on the e-catalog on the TE website.
Headers → ***Pic. 1*** are designed for PCB mounting, available in solder type versions for through-hole-reflow (THR) → ***Pic.2*** or surface-mounted-technology (SMT). Pin and Rec. Headers are offered with/ without O-ring as well as shielded or unshielded versions. The interfaces are defined in an A, B and D – code version → ***Pic.3***.

Pic. 1
Left: M12 Rec. Header, R/A 8 Pos.
Right: M12 Pin Header, R/A 5 Pos.



Pic. 2
Header soldered on PCB
supporting PCB frame removed
Left: M12 Rec. Header, R/A 5 Pos.
Right: M12 Pin Header, R/A 5 Pos.



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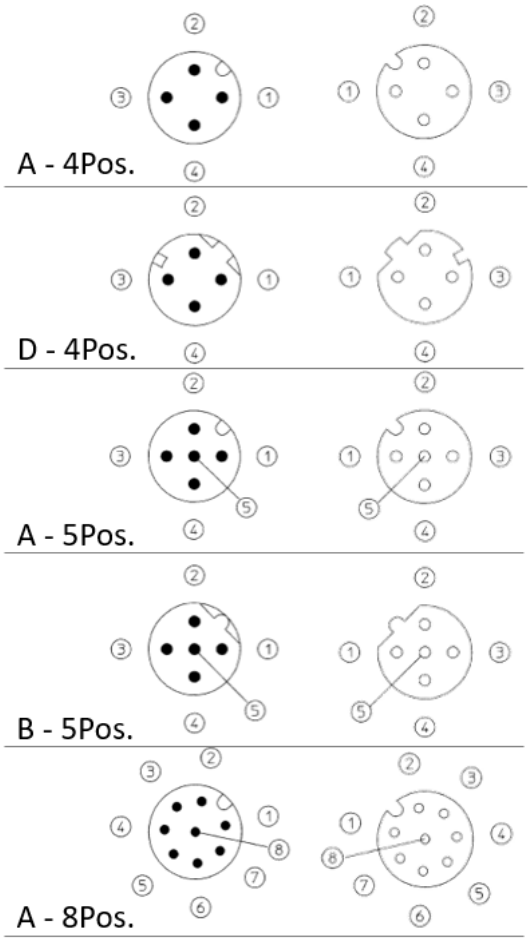
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Pic. 3

Headers are available by numbers of contacts and codings as shown:

Optional design in
Front~/ Rear mounting,
with/ without anti-twist feature
with / without shielding or
with / without O-ring

More details see →**App./ Chap. 6.10 - 6.21**



2. REFERENCE DOCUMENTS

2.1 Customer Assistance

Individual help can be achieved by calling the TE Product Info Center (PIC) or the Tooling assistant Center (TAC) mentioned with **1-800-522-6752**.

2.2 Drawings

Customer drawings, specifications and 3D models can be simply downloaded from our TE-website at www.te.com and the linked e-catalog at the bottom of the page. If there should be any conflict between the information contained in a customer drawing and this specification or with any other technical documentation supplied, the customer drawing shall prevail. Always the latest revision release of specifications and drawings are valid.

2.3 Specifications / Compliance

following specifications will describe the technical features and performance of the product.

108-94887	Product Specification M12 Circular Connector Right Angle, A, B ,D -Code
107-18177	M8/ M12 Circular Connector (Vertical and Right Angle)
501-19314	Reflow Soldering - Qualification
IEC 61076-2-101	Global guiding standard.
UL listed	E84703

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2.4 Applicable Documents/ Standards

Standards and publications developed by the International Electrotechnical Commission (IEC) provide industry test and performance requirements. The following mentioned documents are part of this specification.

All customer drawings	M12 Circular Connectors in right angled version, provided by TE where this application specification is related to.
IEC 61076-2-012: 2010	Connectors for electrical and electronic equipment – Product Requirements – Part 2-012: Circular connectors – Detail specification for connectors with inner push-pull locking based on M12 connector interfaces according to IEC 61076-2-101, IEC 61076-2-109, IEC 61076-2-111 and IEC 61076-2-113,
IEC 61076-2-101: 2013	Connectors for electronic equipment – Product requirements – Part 2-101: Circular connectors – Detail specification for M12 connectors with screw-locking
IEC 61076-2-104: 2014	Connectors for electronic equipment - Product requirements - Part 2-104: Circular connectors - Detail specification for circular.
IEC 61076-2-109: 2015	Connectors for electronic equipment - Product requirements - Part 2-109: Circular connectors - Detail specification for connectors with M 12 x 1 screw-locking, for data transmission frequencies up to 500 MHz
IEC 61076-2-111: 2017	Connectors for electrical and electronic equipment - Product requirements – Part 2-111: Circular connectors - Detail specification for power connectors with M12 screw-locking
IEC 61076-2-113:2017	Connectors for electronic equipment - Product requirements - Part 2-113: Circular Connectors - Detail specification for connectors with data and power contacts with M12 screw-locking
IEC 61076-2-114: 2020	Connectors for electrical and electronic equipment - Product requirements – Part 2-114: Circular connectors - Detail specification for connectors with M8 screw-locking with power contacts and signal contacts for data transmission up to 100 MHz
IEC 60068-2-58 Ed.3	Environmental testing - Part 2-58: Tests - Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)
IPC/JEDEC J-STD-020C	Moisture/Reflow Sensitivity Classification for non-hermetic solid state. Surface Mount Devices; issued Jan 2004
IPC-2221B	Generic Standard on Printed Board Design
IPC A-610, H - 2020-09	Acceptability of Electronic Assemblies
EIA/IPC/JEDEC J-STD-002E	Solderability Tests for Component Leads, Terminations, Plugs, Terminals and Wires
IPC-J-STD-001, G	Requirements for Soldered Electrical and Electronic Assemblies.
JEDEC Pub.95-4.10D-2002	Generic Shipping & Handling Matrix Tray

2.5 Manuals

Manual 402-40 can be used as a guide to soldering. This manual provides information on various flux types of storage contamination that could adversely affect performance and characteristics with the commercial designation, flux removal procedures, and a guide for information on soldering problems.

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3. REQUIREMENTS

3.1 Storage

Do not stack product shipping containers so high that the containers buckle or will be deform. The connectors can be stored in a temperature range of -40° to 70°C. For dispensing higher temperature as RT is required.



Avoid moisture at the packed products during storage.

A. Consumption in the Field

The products should be used on a “first in, first out” process to avoid storage contamination, see latest valid customer drawings, too.

B. Ultraviolet Light

Prolonged exposure to ultraviolet light may deteriorate the chemical composition used in the product material.

C. Shelf Life

The product should remain in the shipping containers until ready for use to prevent deformation to components. The product should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance.

D. Chemical Exposure

Do not store products near any chemical listed below as they may cause stress corrosion cracking in the material, valid as well for cable assembly mated to that connector.

Alkalies	Ammonia	Citrates	Phosphates Citrates	Sulfur Compounds
Amines	Carbonates	Nitrites	Sulfur Nitrites	Tartrates

3.2 Operating Temperature

The connectors as well as cable assemblies applied here with them must be used in the operating temperature as specified on the customer drawing respectively product specification.

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4. PACKAGING

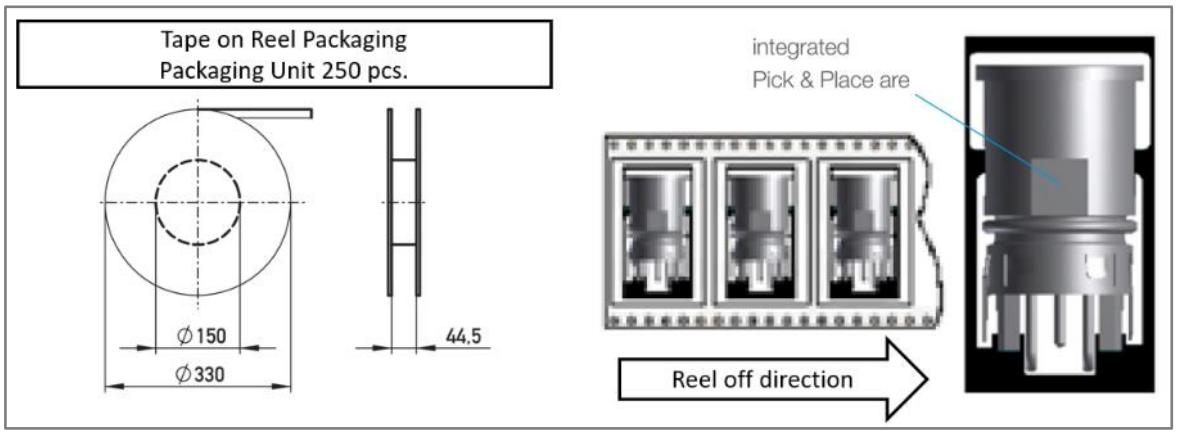
4.1 Bulk Packed

Despite a certain risk associated with loose packed products, TE offers small packaging quantities for special products to support small batch production. As far as bulk packed products are offered, the limited number of parts per package is indicated on the corresponding drawing.

Please check the products for any possible deformation before use and handle them carefully to avoid damage after unpacking.

4.2 Packed on Reel

For mass production and a preferred automatic pick+place process the headers can be bought belt packed. On the top of each M12 header a smooth, rectangular field with min. dimension 3.0x3.0mm is designed ready for a pick+place positioning → Pic. 4. For more technical details, please review the related product drawing.



Pic. 4

The offered quantities per reel are defined on the respective drawing.

For automated pick & place assembly a nozzle with sufficient geometry needs to be chosen. TE recommends nozzles with flexible heads (for example silicone).

4.3 Packed in Tray

A tray packaging is available and specified for some products shown on the related drawing.
The tray design is based on the JEDEC Publication 95 -4.10D.

For automated pick & place assembly a nozzle with sufficient geometry needs to be chosen. TE recommends nozzles with flexible heads (for example silicone).

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5 MOUNTING / SOLDERING

5.1 General Requirements

All M12 pin / rec. header can be used with all PCBs which are suitable for a reflow or wave soldering process. The PCB may have a thickness of 1.0 / 1.6 / 2.0mm. The limits depend on the required stiffness of the entire application. The headers can be placed either by hand or by an automatic pick+place process.

Please consider the impact on the dispensing of the solder paste. By a repetition of 3 times of the recommended solder profile, TE verified a safe handling of all header types. It is therefore important to adhere to the recommended soldering profile that either exceed time ranges, nor temperature limits.

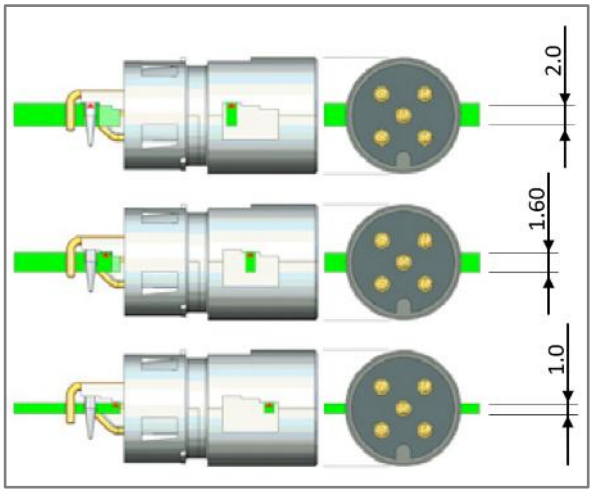
Compliance with the storage conditions according to DIN EN 60721-3-1 to avoid product damage before soldering is required for all types of solderable connectors up to 6 months after the date of manufacture given on the packaging label.

Deviating from the specifications will lead to an insufficient connection of the solder joints.

5.2 Orientation of Header Right-Angled

Each header is equipped with integrated PCB support points, which can adapt the 3 frequently mainly used PCB thicknesses.

Note
Also other thicknesses in between of the mentioned range can be used, if the non-centric position of the connector, in this case is considered. The support points must be considered according to the chosen PCB thickness, see the related product drawing left hand side. The PCB must be designed to provide those supports. For exact dimensions, mechanical CAD- files can be provided.



The 3 versions of supporting points ensure a safe and planar orientation to the PCB surface.

5.3 Solder Layout

The PCB layout must consider the required number of contacts, hole diameters and distance according to the proposal shown with →App. / Chap. 6.2+6.3. Deviations from the specified design are the responsibility of the user. For pin header and receptacle header the same footprint is specified.

Step files with the specified footprints can be downloaded from the TE website and e-catalog below the related product part numbers.

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5.4 Solder Preparation

TE requires that the products be used only by trained personnel. Otherwise, the general rule is that all components must be free from paint, insulation residues or traces of oxidation. Proper soldering should produce durable and good conductive contact at the solder joints, for this cleanliness is very important. For help and important guidance, refer to the IPC standards mentioned with → Pos. 2.4.

5.5 Soldering Types

5.5.1 General Instruction

Please investigate in advance by soldering tests with your final application if a fine adjustment of the soldering profile is necessary. This may usually differ from the suggested soldering scheme. A valid reason for an adjustment can be the property of the soldering material, the type of soldering fixture and even the heat absorption or heat reflection of adjacent components. Please refer to the detailed description and recommendation you received with your soldering apparatus and associated soldering material.

5.5.2 Wave Soldering

Due to the design a wave soldering is not considered and therefore not recommended.

5.5.3 Reflow Soldering

The product specified herewith has passed the qualification test with the reflow soldering profile shown in →**App. / Chap. 6.1.** Therefore, this soldering profile is recommended to be used. The soldering process has been successfully performed with approval tests based on a lead-free soldering profile up to 3 times.

So far, a gasket for sealing has been pre-assembled on the header by TE, that status is approved for the proposed soldering process as described before and specified with the related product specification 108-94887.

If a header without gasket for sealing performance was chosen, the required gasket can be ordered separately in different packaging sizes for a post-mounting after soldering. The required components for sealing aspects are described within Optional Accessories → App. / Chap. 6.12, 6.14, 6.16 and 6.21.
Please contact your TE-representative or call TE →Pos. 2.1 in case further support is needed.
.

5.5.4 Post-Treatment after Soldering

Review the electrical connections between header to the PCB carefully for any unexpected damage of the header housing. The root cause can usually be found in a solder profile that has been run too extremely and had exceeded the recommended limits of temperature or time unexpectedly and without being detected upfront.

Remove the supporting PCB frame apart from the touch points of the supporting points near to the header mating area.

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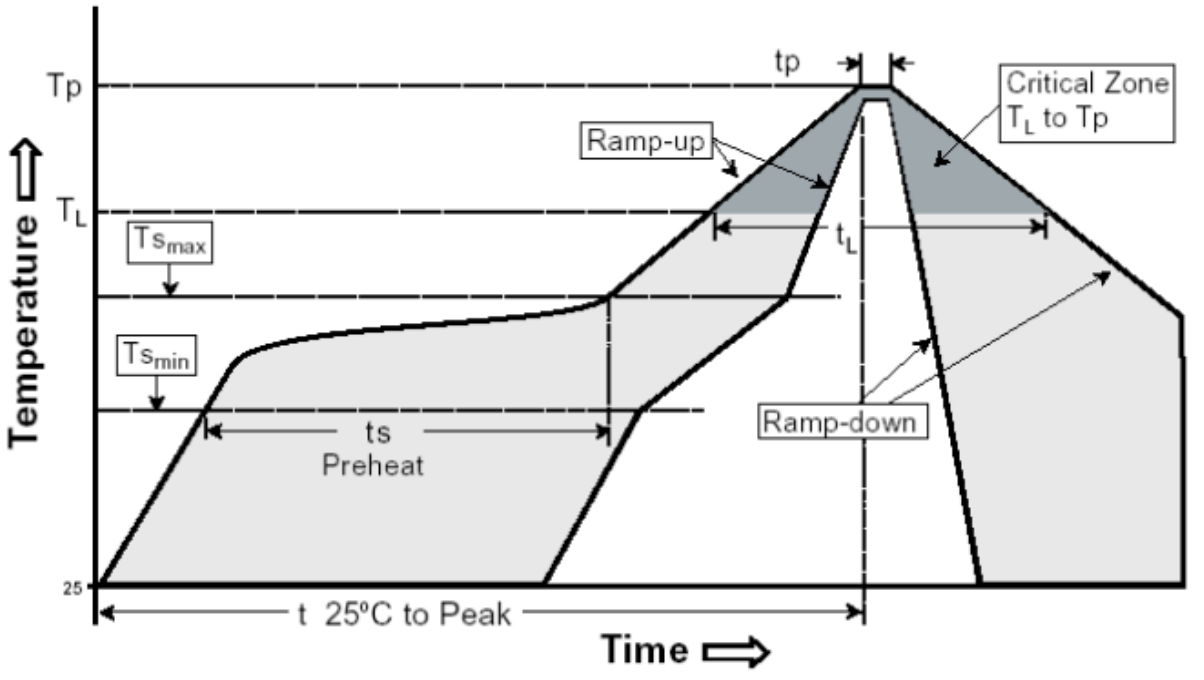
6. APPENDIX

6.1 Solder Profile – SMD / THR (Reflow)

IEC 60068-2-58 Ed.3
Solder Paste: SnAgCu / Melting Point 217°C

Attention
Deviation from the recommended Solder Profile might cause damage of the assembled Pin / Rec. Header.

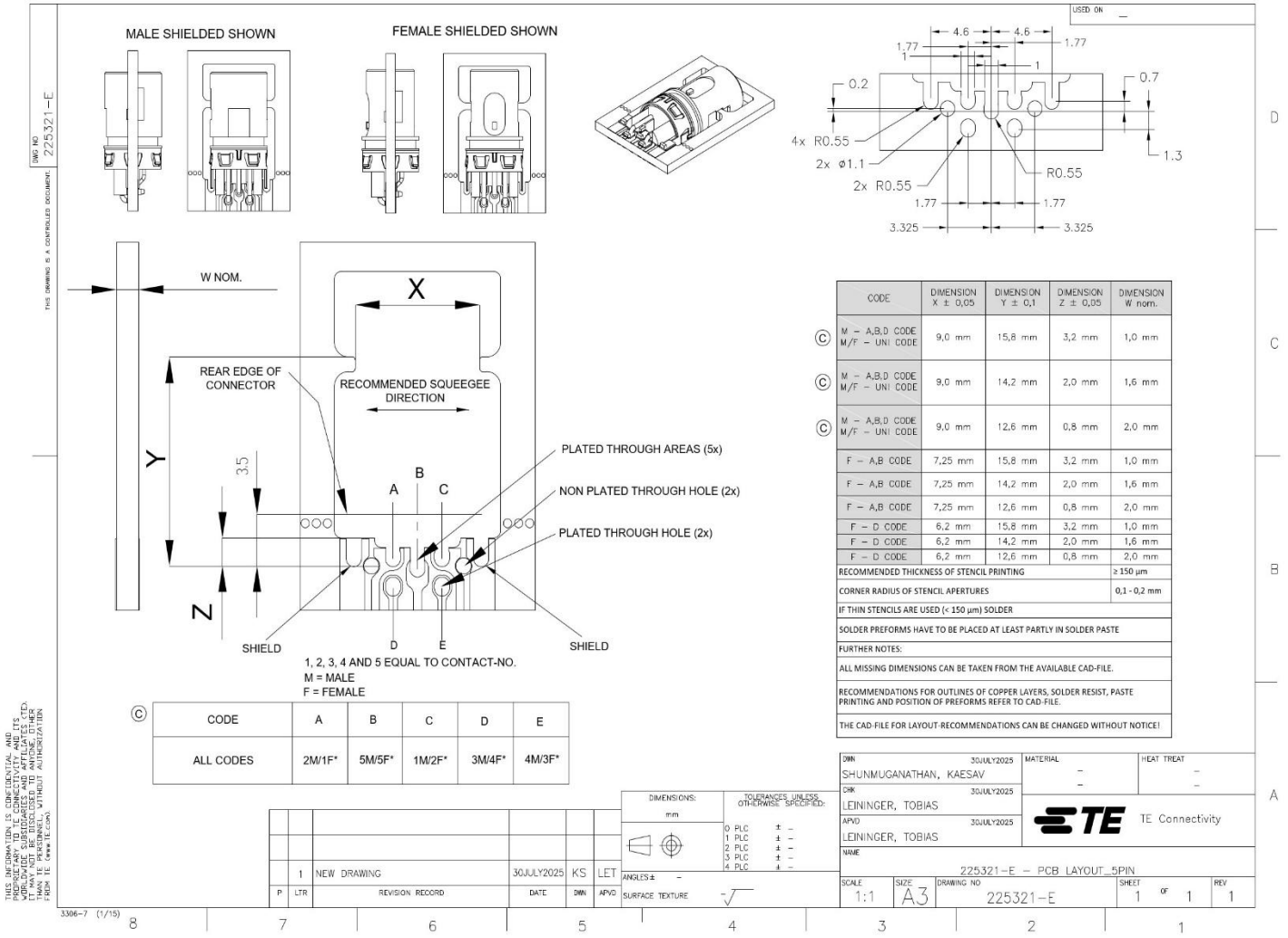
Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (Ts_{max} to Tp)	3°C/ second max.
Preheat – Temperature Min (T_{smin}) – Temperature Max (T_{smax}) – Time (ts_{min} to ts_{max})	 150 ± 5°C 180 ± 5°C 60-120 seconds
Time maintained above: – Temperature (T_L) – Time (t_L)	 225°C 20 ± 5seconds
Peak/Classification Temperature (Tp)	235°C (+0/-5°C)
Time within 5 °C of actual Peak Temperature (tp)	10 seconds
Ramp-Down Rate	6 °C/second max.



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6.2 Solder Layout, M12 Pin / Receptacle Header 5 Pos.
Solder Layout, M12 Pin / Receptacle Header 4 Pos. without center pin hole



CODE	DIMENSION X ± 0,05	DIMENSION Y ± 0,1	DIMENSION Z ± 0,05	DIMENSION W nom.
© M – A,B,D CODE M/F – UNI CODE	9,0 mm	15,8 mm	3,2 mm	1,0 mm
© M – A,B,D CODE M/F – UNI CODE	9,0 mm	14,2 mm	2,0 mm	1,6 mm
© M – A,B,D CODE M/F – UNI CODE	9,0 mm	12,6 mm	0,8 mm	2,0 mm
F – A,B CODE	7,25 mm	15,8 mm	3,2 mm	1,0 mm
F – A,B CODE	7,25 mm	14,2 mm	2,0 mm	1,6 mm
F – A,B CODE	7,25 mm	12,6 mm	0,8 mm	2,0 mm
F – D CODE	6,2 mm	15,8 mm	3,2 mm	1,0 mm
F – D CODE	6,2 mm	14,2 mm	2,0 mm	1,6 mm
F – D CODE	6,2 mm	12,6 mm	0,8 mm	2,0 mm
RECOMMENDED THICKNESS OF STENCIL PRINTING				≥ 150 µm
CORNER RADIUS OF STENCIL APERTURES				0,1 - 0,2 mm
IF THIN STENCILS ARE USED (< 150 µm) SOLDER				
SOLDER PREFORMS HAVE TO BE PLACED AT LEAST PARTLY IN SOLDER PASTE				
FURTHER NOTES:				
ALL MISSING DIMENSIONS CAN BE TAKEN FROM THE AVAILABLE CAD-FILE.				
RECOMMENDATIONS FOR OUTLINES OF COPPER LAYERS, SOLDER RESIST, PASTE PRINTING AND POSITION OF PREFORMS REFER TO CAD-FILE.				
THE CAD-FILE FOR LAYOUT-RECOMMENDATIONS CAN BE CHANGED WITHOUT NOTICE!				

© CODE	A	B	C	D	E
ALL CODES	2M/1F*	5M/5F*	1M/2F*	3M/4F*	4M/3F*

P	LTR	REVISION RECORD	DATE	DWN	APVD
1		NEW DRAWING	30JULY2025	KS	LET

DWN 30JULY2025 SHUNMUGANATHAN, KAESAV
CHK 30JULY2025 LEININGER, TOBIAS
APVD 30JULY2025 LEININGER, TOBIAS
MATERIAL –
HEAT TREAT –
TE Connectivity
NAME 225321-E – PCB LAYOUT_5PIN
SCALE 1:1 SIZE A3 DRAWING NO 225321-E SHEET 1 OF 1 REV 1

DIMENSIONS: mm
TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ± – 1 PLC ± – 2 PLC ± – 3 PLC ± – 4 PLC ± –
ANGLES ± –
SURFACE TEXTURE

DWG NO 225321-E
THIS DRAWING IS A CONTROLLED DOCUMENT
USED ON –
3306-7 (1/15)

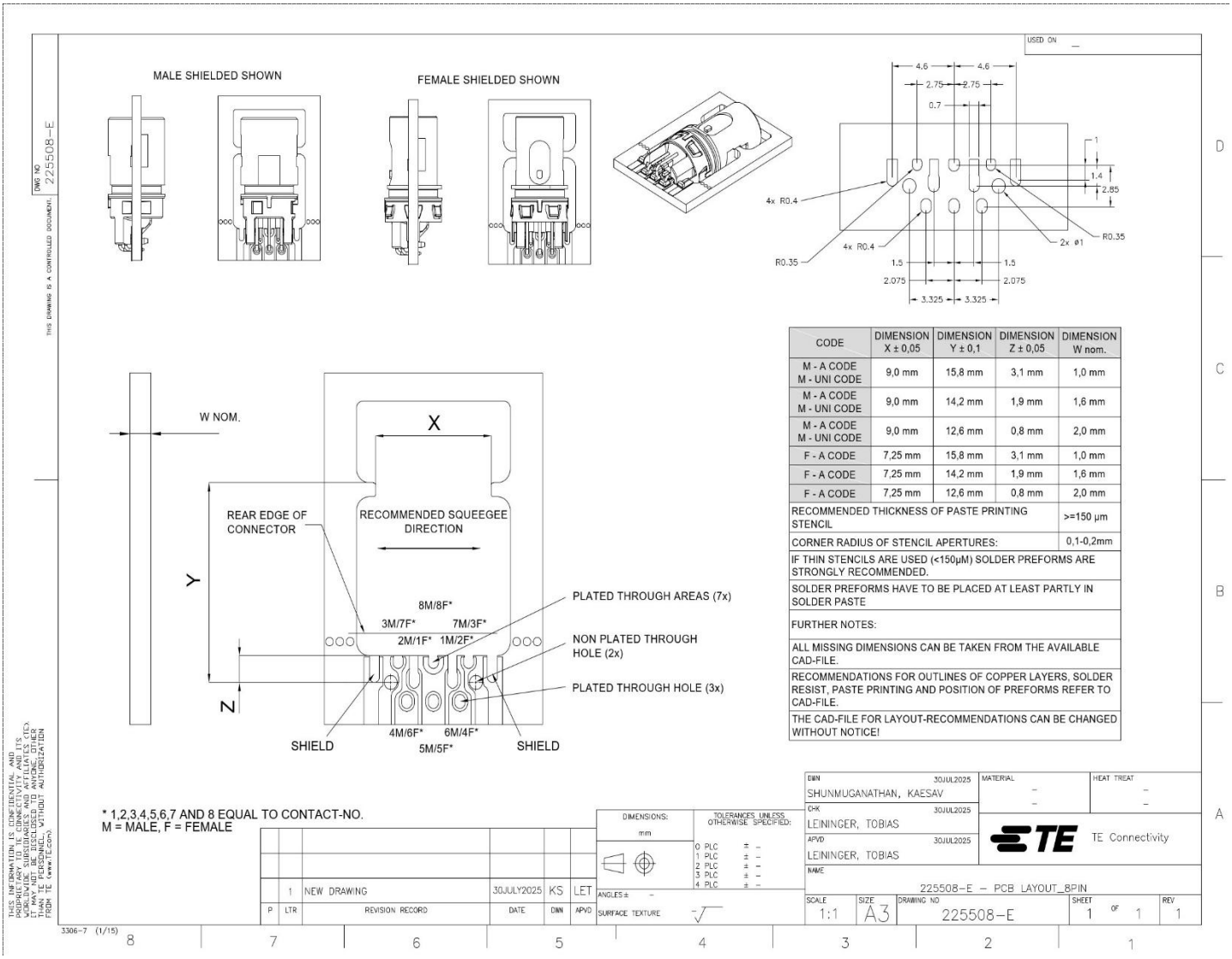
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Numbers in brackets show a reference to a former (maybe external) specification.

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6.3 Solder Layout, M12 Pin / Receptacle Header 8 Pos.



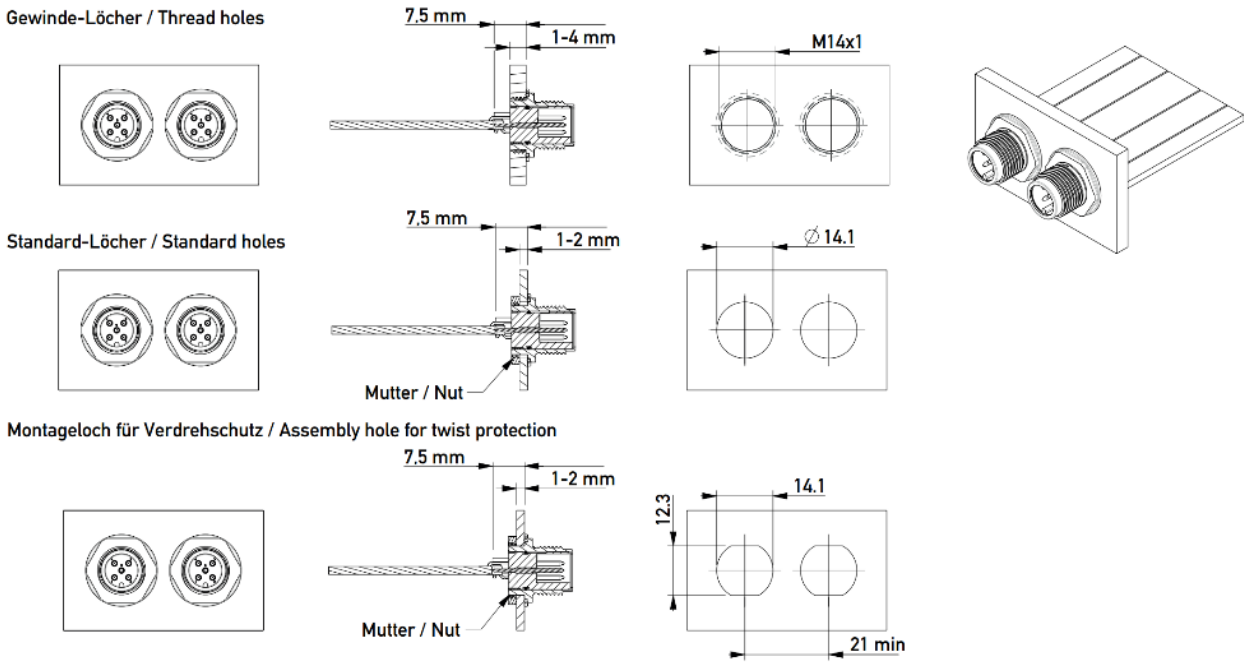
CODE	DIMENSION X ± 0,05	DIMENSION Y ± 0,1	DIMENSION Z ± 0,05	DIMENSION W nom.
M - A CODE M - UNI CODE	9,0 mm	15,8 mm	3,1 mm	1,0 mm
M - A CODE M - UNI CODE	9,0 mm	14,2 mm	1,9 mm	1,6 mm
M - A CODE M - UNI CODE	9,0 mm	12,6 mm	0,8 mm	2,0 mm
F - A CODE	7,25 mm	15,8 mm	3,1 mm	1,0 mm
F - A CODE	7,25 mm	14,2 mm	1,9 mm	1,6 mm
F - A CODE	7,25 mm	12,6 mm	0,8 mm	2,0 mm
RECOMMENDED THICKNESS OF PASTE PRINTING STENCIL				>=150 µm
CORNER RADIUS OF STENCIL APERTURES:				0,1-0,2mm
IF THIN STENCILS ARE USED (<150µM) SOLDER PREFORMS ARE STRONGLY RECOMMENDED.				
SOLDER PREFORMS HAVE TO BE PLACED AT LEAST PARTLY IN SOLDER PASTE				
FURTHER NOTES:				
ALL MISSING DIMENSIONS CAN BE TAKEN FROM THE AVAILABLE CAD-FILE.				
RECOMMENDATIONS FOR OUTLINES OF COPPER LAYERS, SOLDER RESIST, PASTE PRINTING AND POSITION OF PREFORMS REFER TO CAD-FILE.				
THE CAD-FILE FOR LAYOUT-RECOMMENDATIONS CAN BE CHANGED WITHOUT NOTICE!				

Above the overview of the part numbers corresponds to a snapshot at the time of creation and is not permanently updated. Numbers in brackets show a reference to a former (maybe external) specification.

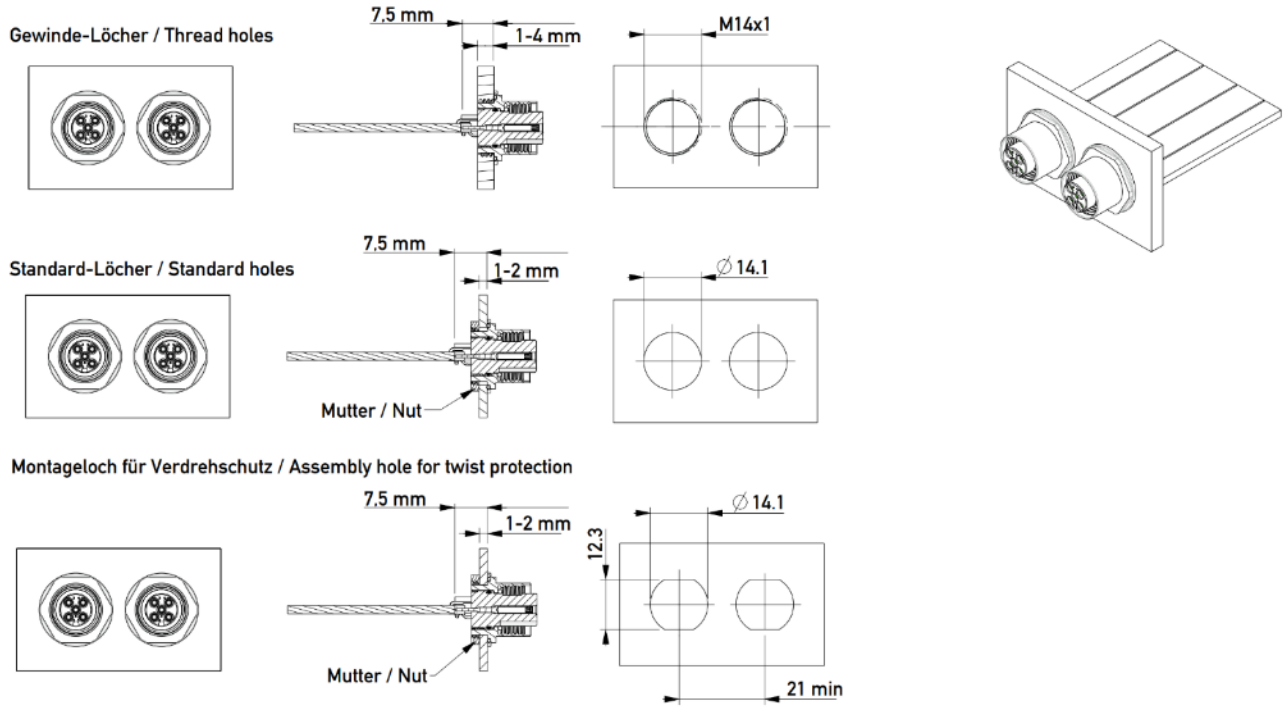
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6.4 M12 Pin Header with TE Locking Shell



M12 Receptacle Header with TE Locking Shell

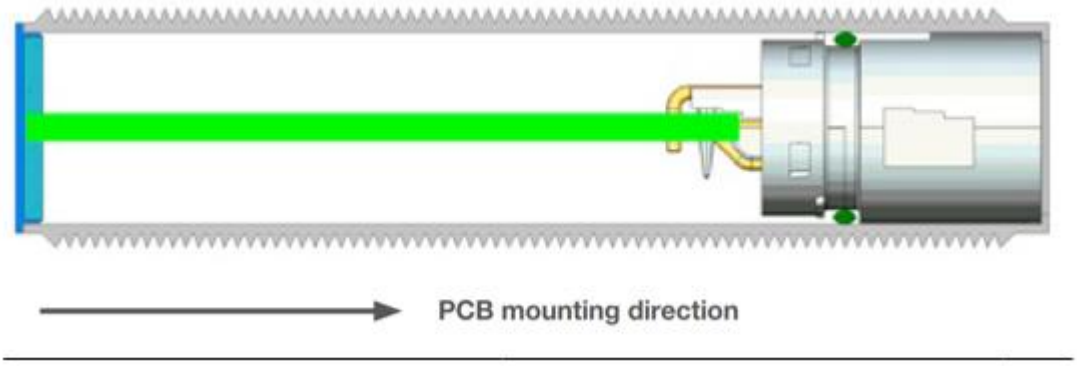


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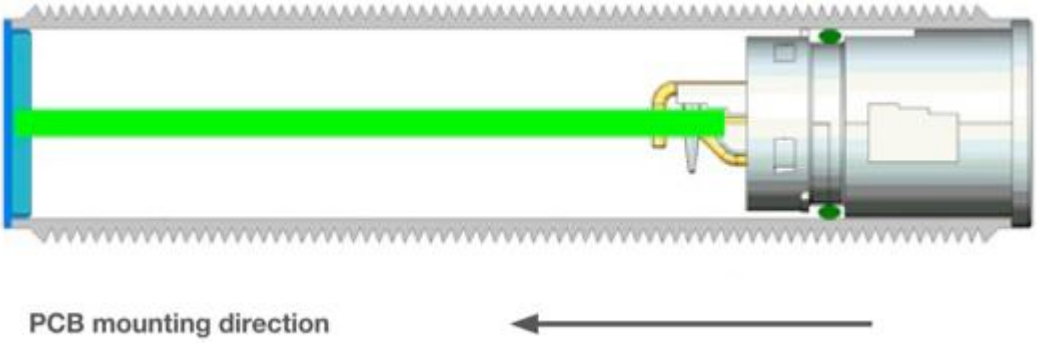
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6.5 Application in a Sensor Pipe

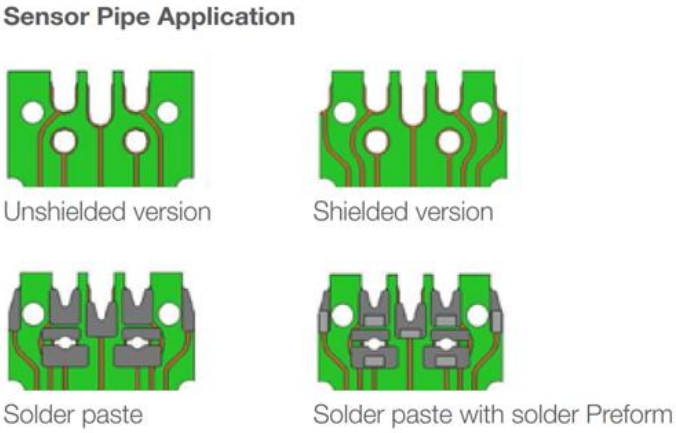
6.5.1 Rear Mounting in a Sensor Pipe

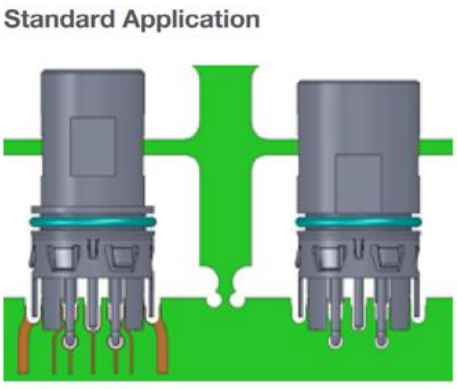


6.5.2 Front Mounting in a Sensor Pipe



6.6 Solder Layout - Recommendation





Layout for **5 Pos.** version refer to 225321-E
Layout for **4 Pos.** version w/o center hole.

Layout for **8 Pos.** version refer to 225508-E

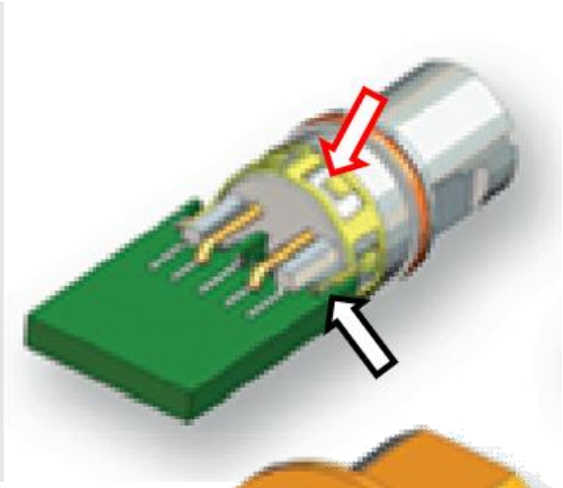
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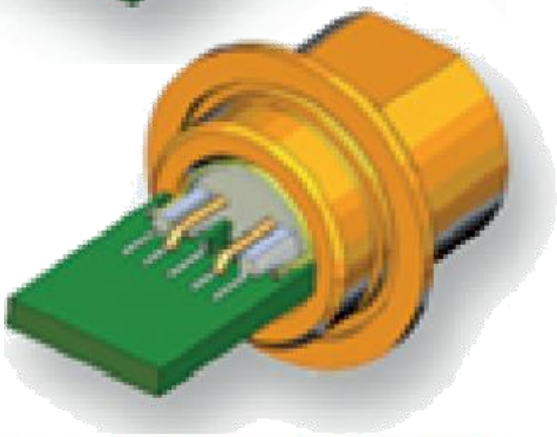
6.7 Solder Header with / without Shielding

The optional shielding ring is soldered with two pins to the PCB (black arrow).

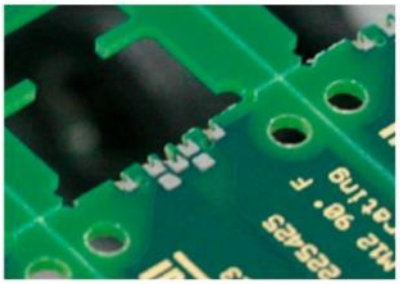




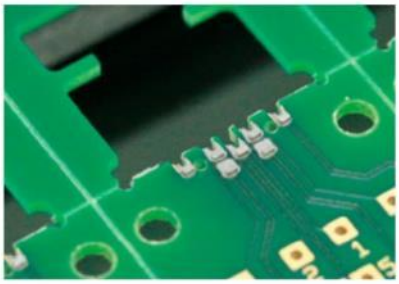
Electrical contact to the locking shell is performed by three contact tongues placed at the outer contour of the shield ring. (red arrow)



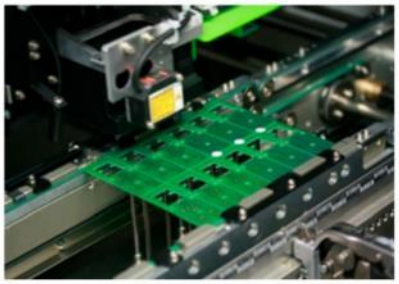
Example images from solder process



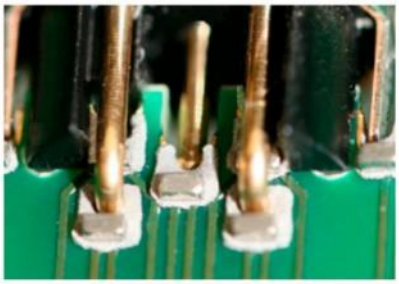
PCB with solder paste



PCB with solder paste and Pre-Form



Multiple printed pcb in assembly machine



Connector placed into solder paste

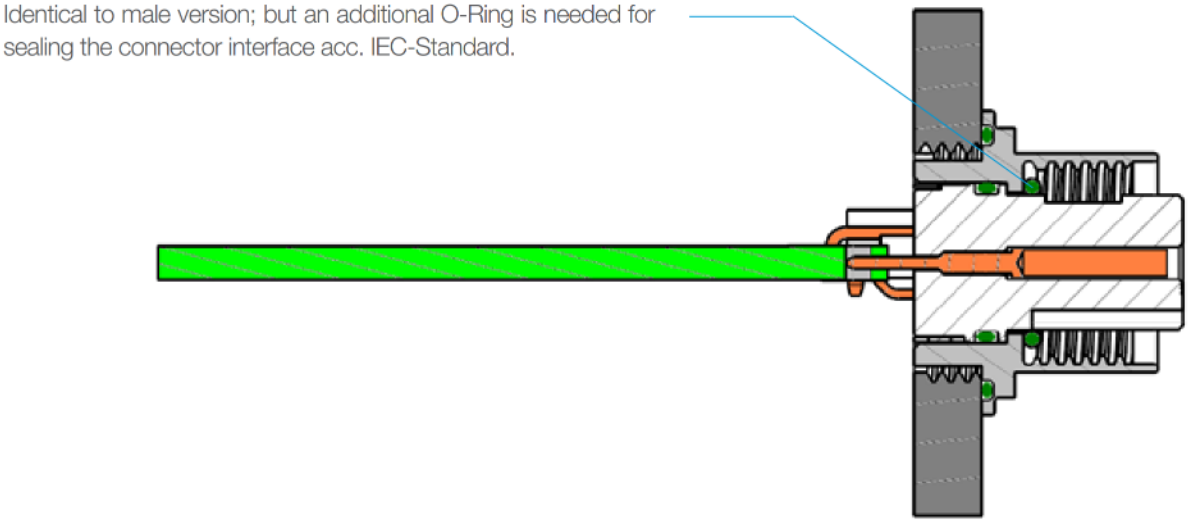
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6.8 Sealing Options Pin Header



6.9 Sealing Options Receptacle Header



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6.10 M12 Header for Rear Mounting



- right angle male
- rear mount
- with or without O-Ring
- 4, 5 and 8-pin
- shielded and unshielded versions

No. of Pins	Coding	Loaded Pins	O-Ring	Part Number unshielded	Part Number shielded
4	A	1, 2, 3, 4	no	225252	225255
4	A	1, 2, 3, 4	yes	–	235171
4	D	1, 2, 3, 4	no	225263	225264
5	A	1, 2, 3, 4, 5	no	225251	225254
5	A	1, 2, 3, 4, 5	yes	225456	235165
5	A	1, 2, 3, 4, 5v	no	225253	225256
5	B	1, 2, 3, 4, 5	no	225258	225260
8	A	1, 2, 3, 4, 5, 6, 7, 8	no	225294	225295
8	A	1, 2, 3, 4, 5, 6, 7, 8	yes	225454	235045

Part numbers above are selectable on TE website applying a suffix "…-E" to the number.

6.11 M12Header for Rear Mounting with Anti-Twist Protection

No. of Pins	Coding	Loaded Pins	O-Ring	Part Number unshielded	Part Number shielded
8	A	1, 2, 3, 4, 5, 6, 7, 8	yes	225614	–

Used with locking shell 225635.

Part numbers above are selectable on TE website applying a suffix "…-E" to the number.

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6.12 Optional Accessories to Pos. 6.9 and Pos. 6.10

Description	Usage	Part Number
O-Ring, 7.2 x 0.8, Viton	sealing option between connector and locking shell	225360
M12Locking shell	for male connectors	225361
M12 Locking shell	for male connectors with anti twist protection	225635
O-Ring, 14 x 1	sealing option between housing and locking shell	834899
M12 Protection cap	for male connectors	374342
Counternut	for locking shell	354003

Part numbers above are selectable on TE website applying a suffix "…-E" to the number.

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6.13 M12 Header for Rear Mounting, Direct Integration Type



- right angle male
- rear mount, DI
- with or without O-Ring
- 4, 5 and 8-pin
- shielded and unshielded versions

No. of Pins	Coding	Loaded Pins	O-Ring	Part Number unshielded	Part Number shielded
4	by customer	1, 2, 3, 4	no	225267	225270
4	by customer	1, 2, 3, 4	yes	235042	–
5	by customer	1, 2, 3, 4, 5	no	225266	225269
5	by customer	1, 2, 3, 4, 5v	no	225268	225271
8	by customer	1, 2, 3, 4, 5, 6, 7, 8	no	225297	225298

v = early mate last break

Part numbers above are selectable on TE website applying a suffix "…-E" to the number.

6.14 Optional Accessories to Pos. 6.13

Description	Usage	Part Number
O-Ring, 7.2 x 0.8, Viton	Sealing option between connector and customer housing	225360

O-Ring can be used in reflow solder process.

Part numbers above are selectable on TE website applying a suffix "…-E" to the number.

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6.15 M12 Pin Header for Front Mounting, Standard Integration Type



- right angle male
- front mount
- with O-Ring
- 4, 5 and 8-pin
- shielded and unshielded versions

No. of Pins	Coding	Loaded Pins	O-Ring	Part Number unshielded	Part Number shielded
4	A	1, 2, 3, 4	yes	225243	225247
5	A	1, 2, 3, 4, 5	yes	225242	225246
5	A	1, 2, 3, 4, 5v	yes	225245	225249
8	A	1, 2, 3, 4, 5, 6, 7, 8	yes	225291	225292

v = early mate last break

Part numbers above are selectable on TE website applying a suffix "…-E" to the number.

6.16 Optional Accessories to Pos. 6.15

Description	Usage	Part Number
M12 Protection cap	for male connectors	374342

Part numbers above are selectable on TE website applying a suffix "…-E" to the number.

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6.17 M12 Pin Header for Front Mounting, Anti-Twist-Protection

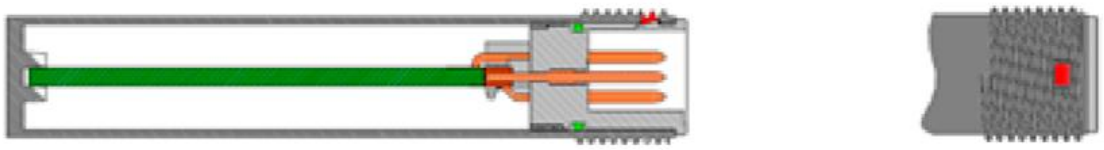
No. of Pins	Coding	Loaded Pins	O-Ring	Part Number unshielded	Part Number shielded
4	A	1, 2, 3, 4	yes	225516	225519
5	A	1, 2, 3, 4, 5	yes	225515	225518
8	A	1, 2, 3, 4, 5, 6, 7, 8	yes	225521	225522



Part numbers above are selectable on TE website applying a suffix "…-E" to the number.

6.18 M12 Pin Header for Front Mounting, Anti-Twist-Protection

No. of Pins	Coding	Loaded Pins	O-Ring	Part Number unshielded	Part Number shielded
5	A	1, 2, 3, 4, 5	yes	225459	–



Part numbers above are selectable on TE website applying a suffix "…-E" to the number.

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6.19 M12 Receptacle Header, Rear Mounting Type



- right angle female
- rear mount
- with or without O-Ring
- 4, 5 and 8-pin
- shielded and unshielded versions

No. of Pins	Coding	Loaded Pins	O-Ring	Part Number unshielded	Part Number shielded
4	A	1, 2, 3, 4	no	225274	225276
4	A	1, 2, 3, 4	yes	225458	–
4	D	1, 2, 3, 4	no	225283	225284
5	A	1, 2, 3, 4, 5	no	225273	225275
5	A	1, 2, 3, 4, 5	yes	225457	235164
5	B	1, 2, 3, 4, 5	no	225278	225280
8	A	1, 2, 3, 4, 5, 6, 7, 8	no	225300	225301
8	A	1, 2, 3, 4, 5, 6, 7, 8	yes	225455	–

Part numbers above are selectable on TE website applying a suffix "…-E" to the number.

6.20 M12 Receptacle Header, Rear Mounting Type Anti-Twist Protection

No. of Pins	Coding	Loaded Pins	O-Ring	Part Number unshielded	Part Number shielded
8	A	1, 2, 3, 4, 5, 6, 7, 8	yes	225615	–

Used with locking shell 225636.

Part numbers above selectable on TE website applying a suffix "…-E" to the number.

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6.21 Optional Accessories to Pos. 6.19 and Pos. 6.20.

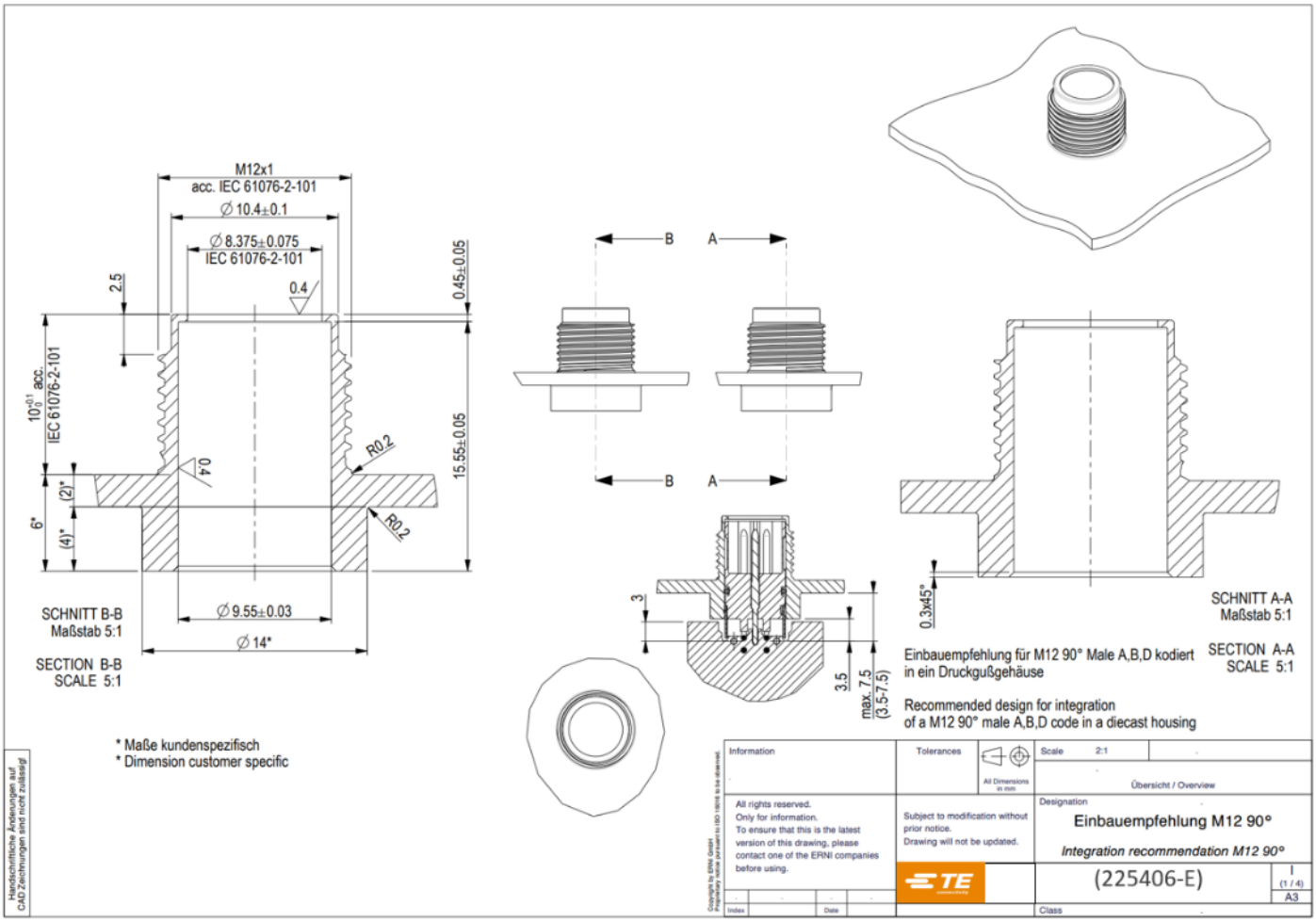
Description	Usage	Part Number
O-Ring, 7.2 x 0.8, Viton	sealing option between connector and locking shell	225360
O-Ring, 7 x 1, Viton	sealing option cable side	835284
O-Ring, 8.1 x 1.6, Viton	sealing option cable side alternativ	225588
M12 Locking shell	for female connectors	225362
M12 Locking shell	for female connectors with anti twist protection	225636
O-Ring, 14 x 1	sealing option between housing and locking shell	834899
M12 Protection cap	for female connectors	374343
Counternut	for locking shell	354003

Part numbers above are selectable on TE website applying a suffix "…-E" to the number.

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6.22 M12 Pin Header, Standard Integration in Plastic or Die Cast Housing – Rear Mounting



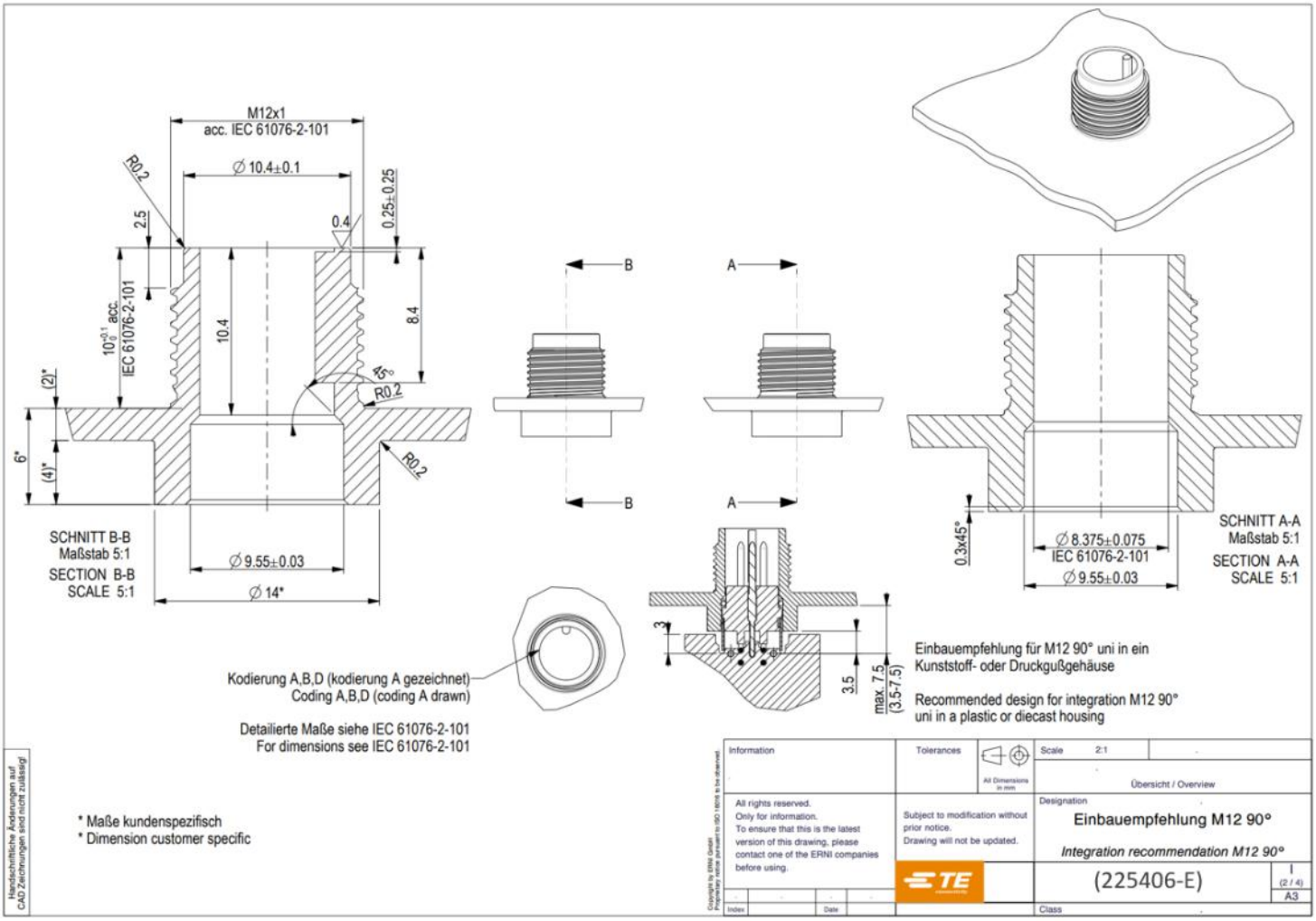
Numbers in brackets show a reference to a former (maybe external) specification

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6.23 M12 Pin Header, Direct Integration in Plastic Housing- Rear Mounting

An integration into a die casting housing requires a check for air~ and creepage distances.



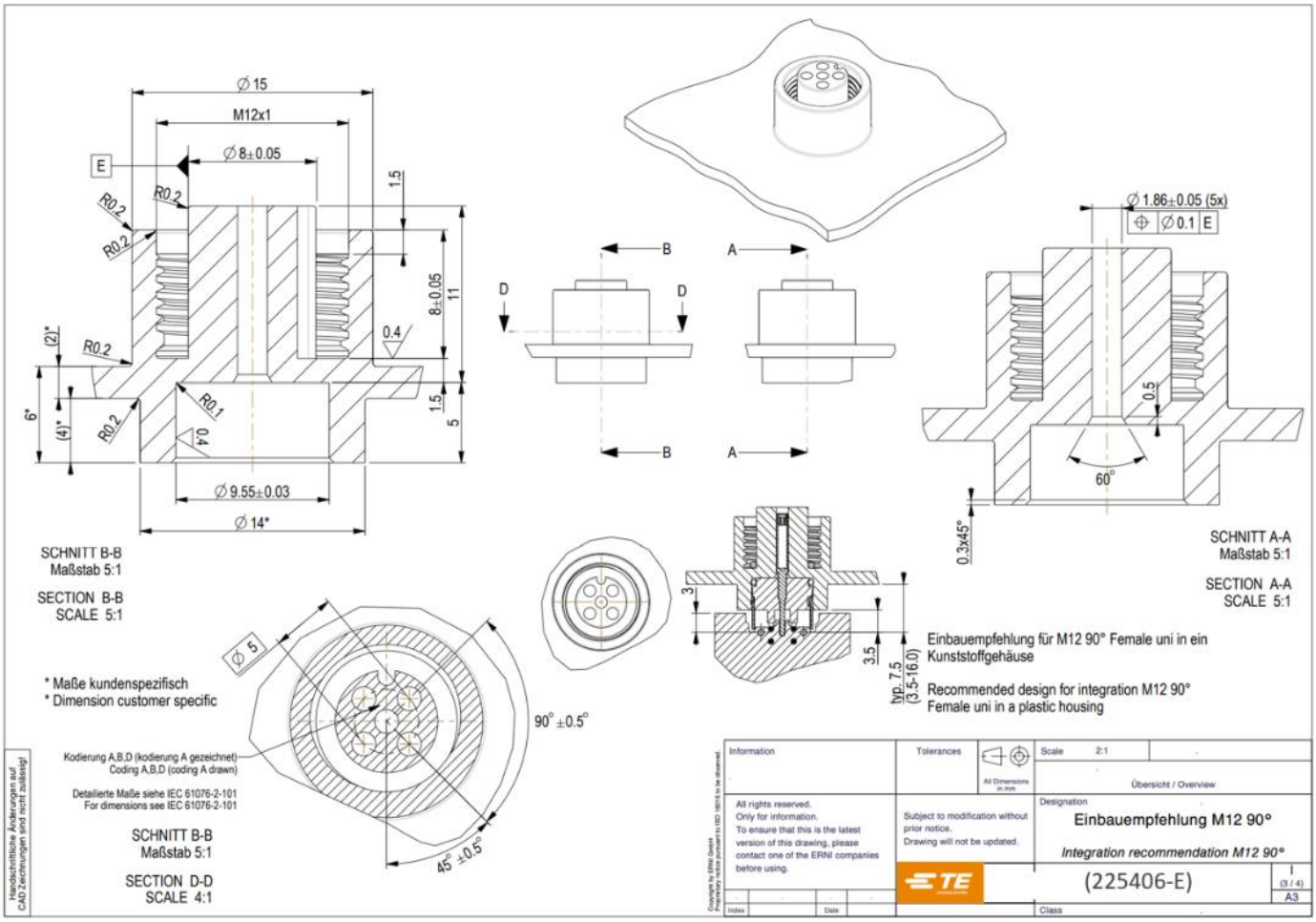
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6.24 M12 Receptacle Header universal application (direct integration) into a Plastic Housing

Integration into a metal housing is not possible. Coding must be performed on the threaded housing by the user.

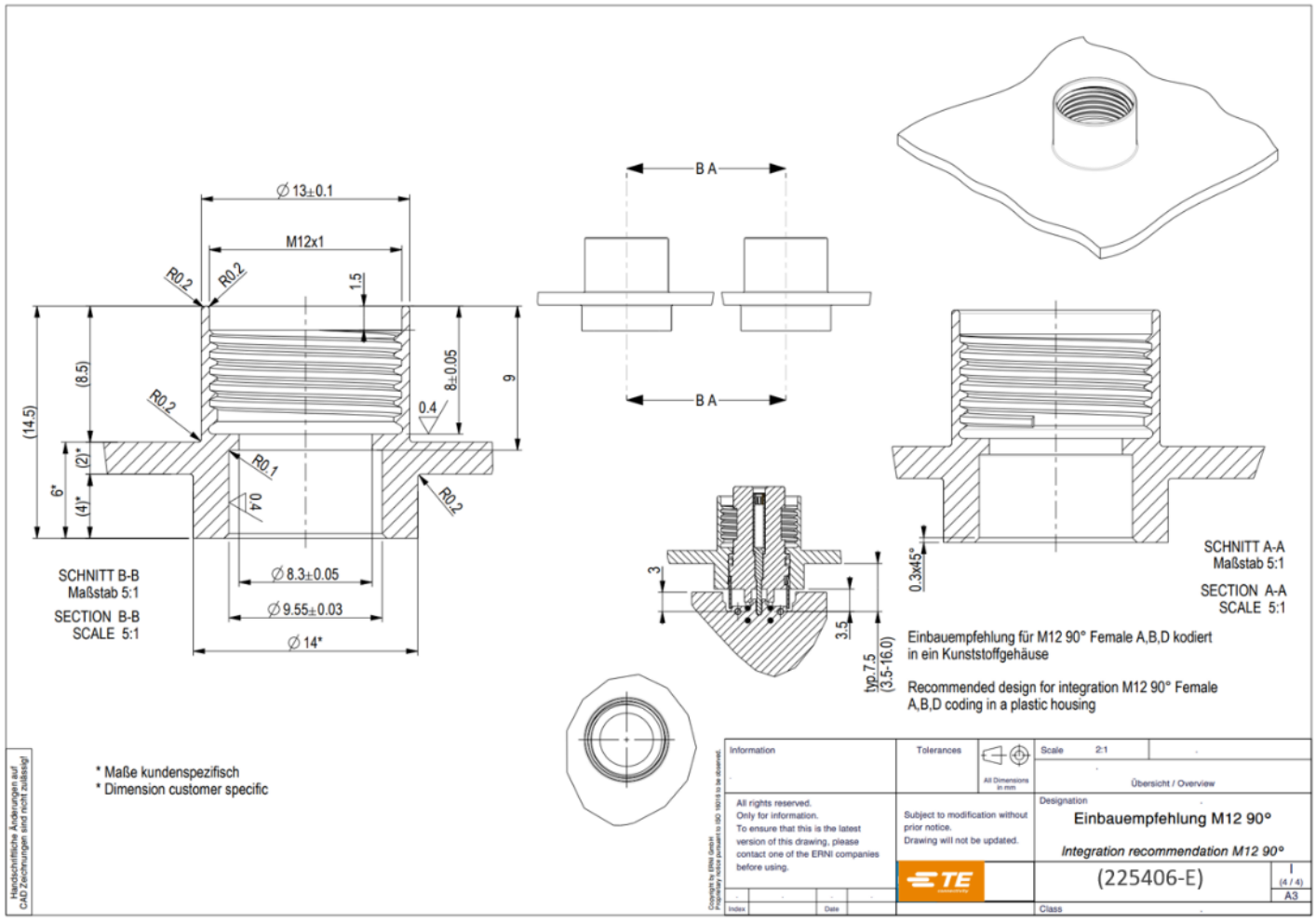


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6.25 M12 Receptacle Header into a Plastic Housing as Standard Integration

Coding is performed on the header.



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Revision Record

Revision	Remarks	Name	Date
A	Specification initiated	MSZ	27.Feb.23
B	Solder layout updated with Missing dimensions for 5 pin & 8 pin, and additional instructions for Packaging with reel & tray added.	KS	18.Aug.25

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