



**Pushing Performance**

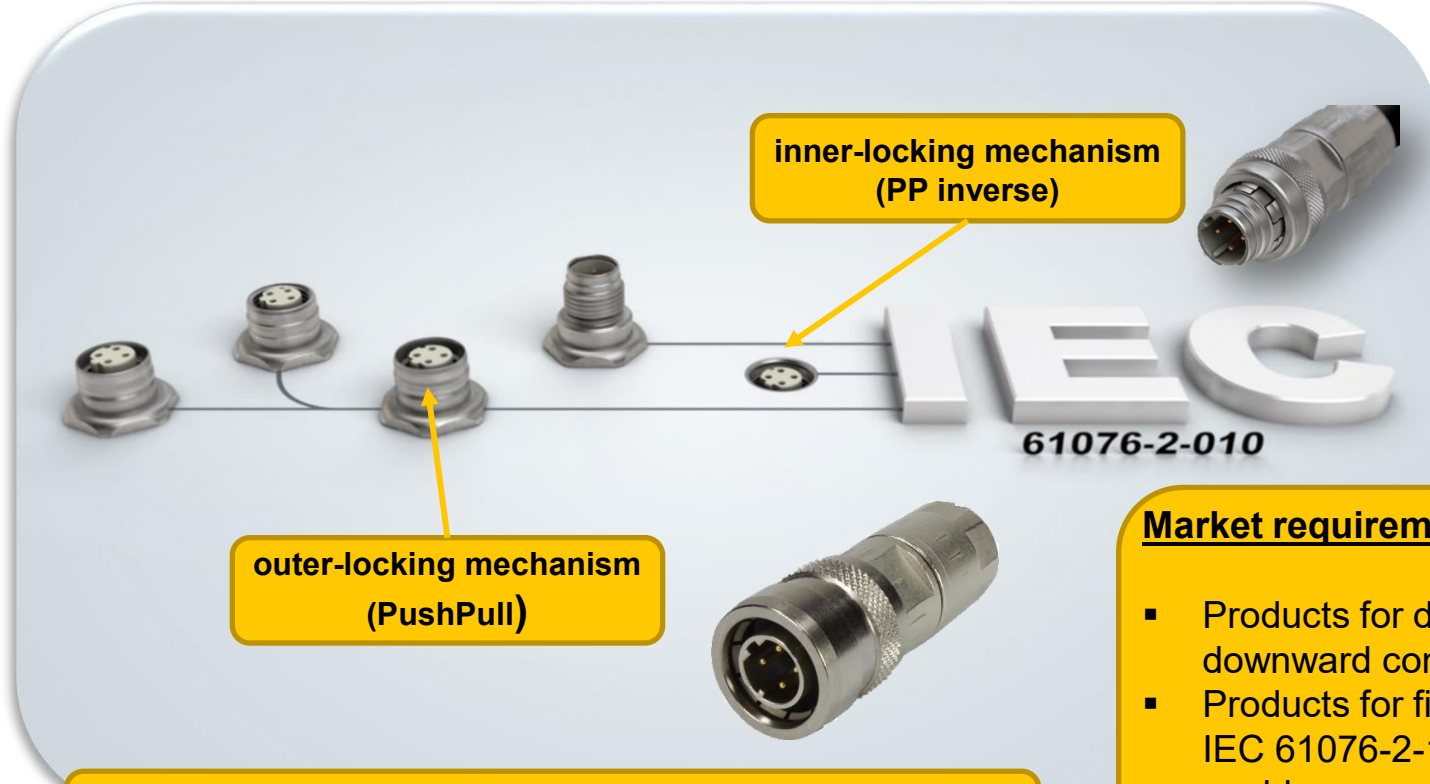
Since 1945

Welcome

# **M12 PushPull Inverse Unshielded**

## **Products and technical details**

# Norm situation IEC 61076-2-010



outer-locking mechanism  
(PushPull)

inner-locking mechanism  
(PP inverse)

The PushPull standard is done and available!

## Market requirements

- Products for device integration are downward compatible
- Products for field installation acc. IEC 61076-2-101/109/111/113 are usable
- Cable-to-Cable connection possible

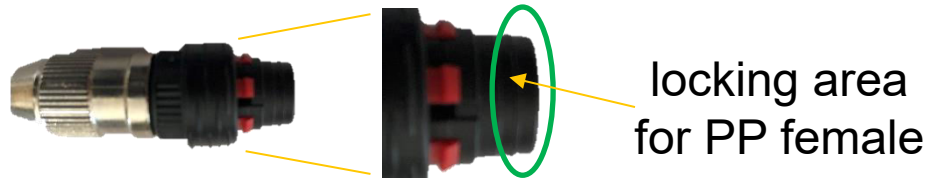
# M12 PushPull Inverse Unshielded



## ■ Product details

- Mating face acc. IEC 61076-2-101
- Locking mechanism acc. IEC 61076-2-010
- 3- and 4-pole A-code male/female cable connector with IDC termination
- Electrical properties 50V/4A
- IP65/67
- Small and compact solution for SIGNAL and POWER transmission
- Receptacle housing for screwing and PushPull locking mechanism

# M12 PushPull Inverse – mating condition



- **Mating condition – Device side and cable connector**
  - Unmated condition – the red locking lever is visible
  - Mated condition – the red locking lever isn't visible
- **Mating condition – cable-to-cable connection**
  - The red locking lever is visible, because the locking area is in a front part of the connector.

# M12 PushPull Inverse – mating condition



Thread for  
connectors for  
screwing



Contour for  
connectors with  
PP inverse

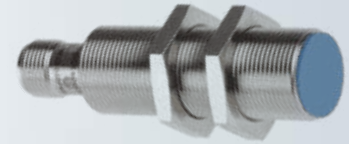
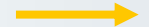
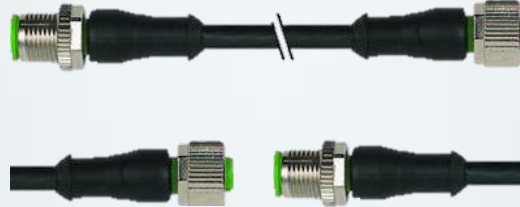
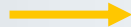
- Receptacle housing with PP inverse feature
  - the receptacle housing is downward compatible and can be used with cable connectors for screwing and with PP inverse locking mechanism

# M12 Standard – Use Case I/O Box - Sensor

## Use Case IO-Box – Sensor unshielded application

Signal

Solution - today



IEC 61076-2-101

# M12 Standard – Use Case I/O Box - Sensor

## Use Case IO-Box – Sensor unshielded application

Signal

Solution – in the future

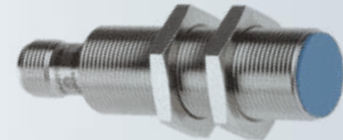


IO-Box PxC

PP inverse locking mechanism



Cable to cable connection



Sensor mit PushPull



IEC 61076-2-010

# M12 Portfolio – M12 PushPull acc. IEC 61076-2-010

Data

**D-Cod.**



4-pole  
male, female, crimp

**X-Cod.**



8-pole  
male, female, crimp



Signal

**A-cod.**



4/5/8-poles male, crimp  
3/4-poles male, IDC



4/5/8-pole female, crimp  
3/4 –pole female IDC



Power

**K/S-cod.**



4/5-pole  
male, female, crimp

**L-cod.**




4/5-pole  
male, female, crimp




# Product Part Numbers

## Products for field installation

Cable connector	PushPull inverse unshielded	
P/N	Description	
21 03 111 1315	M12-S-PPI-CC-IDC-3P-ACOD-M-STR	M12-S PP inverse male A-coded 3-pole unshielded
21 03 111 1415	M12-S-PPI-CC-IDC-4P-ACOD-M-STR	M12-S PP inverse male A-coded 4-pole unshielded
21 03 111 2315	M12-S-PP-CC-IDC-3P-ACOD-F-STR	M12-S PP female A-coded 3-pole unshielded
21 03 111 2415	M12-S-PP-CC-IDC-3P-ACOD-F-STR	M12-S PP female A-coded 4-pole unshielded

## Products for device integration

PCB	PushPull inverse receptacle housing	
P/N	Description	
21 03 321 2536	M12-PCB-THR-5P-ACOD-ACOD-F-STR	M12 PCB receptacle female A-coded 5-Pole PP inverse with housing front mounting (1pc. packaging)
21 03 301 2011	M12-ACC-HOUSING PP INVERSE FEMALE	M12 PCB receptacle housing female PP invers

# Wrap Up

- **The new PushPull Norm IEC 61076-2-010 describes an inner- and an outer locking mechanism**
- **Main market requirements are considered**
  - **downward compatibility**
  - **usage of products for field installation acc. IEC 61076-2-101/109/111/113**
  - **Cable-to-Cable connection**
- **Cable connectors with PushPull functionality reduces installation time and save costs during the installation**
- **HARTING offers a wide range of products for the device integration and field installation acc. IEC 61076-2-010**



**Pushing Performance**

Since 1945

**Thank you  
for your attention!**

PushPull invers unshielded – Matthias Domberg