

Table 6-1: Type designations for control cables and harmonised cables (excerpts)

Control cables

□□□□□ □□ x □
1 2 3 4 5 6 7 8

1. Basic type

N VDE standard
(N) in line with VDE

2. Insulating material

Y Thermoplastic resins
X Cross-linked thermoplastic resins
G Elastomers
HX Halogen-free materials

3. Cable designation

A Core cable
D Solid wire
AF Fine-wire core cable
F Socket core
L Fluorescent tube cable
LH Connecting cable,
light mechanical loads
MH Connecting cable,
moderate mechanical loads
SH Connecting cable,
heavy mechanical loads
SSH Connecting cable for special loads
SL Control cable/welding cable
S Control cable
LS Light control cable
FL Flat cable
Si Silicone cable
Z Twin cable
GL Glass fibre
Li Braided conductor as per VDE 0812
LiF Braided conductor as per VDE 0812,
extra-fine wire

4. Special features

T Supporting element
Ö Enhanced oil resistance
U Flame-retardant
w Heat-resistant, weather-resistant
FE Insulation retained for a limited time
C Screening braid
D Screening as Cu wire wrapping
S Steel wire braiding as mech. protection

5. Sheaths

As point 2.
"Insulating material" P/PUR polyurethane

6. Protective conductor

-O Without protective conductor
-J With protective conductor

7. Number of cores

... number of cores

8. Conductor cross-section

Figures in mm²

EXAMPLE: NSHTÖU 24G 1.5
ÖLFLEX® CRANE NSHTÖU cable, 24-core,
with protective cond., cross-section: 1.5 mm²

Harmonised cables

□□ □□□ - □ □□□
1 2 3 4 5 6 7 8 9

1. Basic type

H Harmonised type
A National type
X or S in the style of a harmonized type

2. Nominal voltage

01 100/100 volts
03 300/300 volts
05 300/500 volts
07 450/750 volts

3. Insulating material

V PVC
V2 PVC +90 °C
V3 PVC flexible at cold temperatures
B Ethylene propylene rubber
E PE polyethylene
X XPE, cross-linked PE
R Rubber
S Silicone rubber

4. Outer/inner sheath material

V PVC
V2 PVC +90 °C
V3 PVC flexible at cold temperatures
V5 PVC with enhanced oil resistance
R Rubber
N Chloroprene based rubber
Q Polyurethane
J Glass fibre braiding
T Textile braiding
S Silicone rubber

5. Special features

C4 Copper wire screen braiding
H Flat cable, divisible
H2 Flat cable, not divisible
H6 Flat cable, not divisible,
for lifts
H8 Helical/spiral cable

6. Conductor type

U Single-wire
R Multi-wire
K Fine-wire (fixed installation)
F Fine-wire (flexible installation)
H Extra-fine wire
Y Tinsel wire
D Fine-wire conductor
for welding cable
E Extra-fine wire conductor
for welding cable

7. Number of cores

... number of cores

8. Protective conductor

X Without protective conductor
G With protective conductor

9. Conductor cross-section

Figures in mm²

EXAMPLE: H05 VV-F 3G 1.5
Medium PVC hose, 3-core,
with protective cond., cross-section: 1.5 mm²

Telecommunications cables

□□ - □□□ □ x □ x □ □□
1 2 3 4 5 6 7 8 9 10

1. Basic type

A- Outdoor cable
G- Mining cable
J- Installation cable
Li Stranded conductor, flexible cable
S- Jumper cable

2. Additional designation

J Induction protection
E Electronics

3. Insulating material

Y PVC
11Y PUR
2Y Polyethylene
O2Y Cellular PE
9Y PP
5Y PTFE
6Y FEP
7Y ETFE
H Halogen-free compound

4. Special features

C Copper screen braiding
D Copper wrapping
(ST) Metal foil screening
(L) Aluminium strip
F Petroleum jelly filling
LD Corrugated aluminium sheath
(K) Copper strip screening
(Z) Steel wire braiding
W Corrugated steel sheath
b Armouring

5. Sheathing

(see point 3. "Insulating material")

6. Number of elements

... number of stranding elements

7. Stranding element

1 Single core
2 Pair
3 Triple

8. Conductor diameter or cross section

... in mm or mm²

9. Stranding element

St Star quad (phantom)
StI Star quad (trunk cable)
StII Star quad (local cable)
TF Star quad for TF
S Signal cable (railway)
PiMF Screened pair
(TP) Twisted Pair
PiD Pairs in copper wrapping

10. Stranding type

Lg Twisted into layers
Bd Twisted into bundles

EXAMPLE: A2Y(L)2Y 6 x 2 x 0.8 Bd
Telephone cable for local network
with PE insulation and layered sheath

Table 6-2: Type designations for telecommunications cables and fibre-optic cables

Fibre-optic cables



1. Product application area

- A Outdoor cable
- AT Outdoor cable, divisible
- J Indoor cable
- J/A or U Indoor/outdoor cable, universal cable

2. Buffered fibre type

- B Loose tube, unfilled
- D Loose tube, filled
- V Tight-buffered fibres

3. Design elements

- F Petroleum jelly filling
- Q Swelling tape

4. Further design elements

- S Metal element in cable core

5. Sheath materials

- 2Y PE sheath
- 11Y PUR sheath
- H Halogen-free sheath
- (ZM) With metallic strain relief elements
- (ZN) With non-metallic strain relief elements
- (ZN)2Y PE sheath with non-metallic strain relief elements

6. Armouring

- B Armouring
- B2Y Armouring with PE casing
- (BN) Glass yarn armouring
- (SG) Steel sheath
- (SR) Corrugated steel sheath
- (SR)2Y Corrugated steel sheath with PE Sheath

7. Number of fibres

Number of fibres

8. Fibre type

- E Single-mode fibre glass/glass (SM GOF)
- G Gradient fibre glass/glass (MM GOF)
- K Step index fibre glass/plastic (PCF)
- P Polymer optical fibre/plastic (POF)

9. Core diameter/fibre sheath diameter

- 50/125 Multimode glass fibre
- 62.5/125 Multimode glass fibre
- 9/125 Single-mode glass fibre
- 200/230 Plastic-coated glass fibre
- 980/1000 Polymer optical fibre

10. Category: fibre quality

- OM4 For 50/125 OM4 multimode fibres
- OM3 For 50/125 OM3 multimode fibres
- OM2 For 50/125 OM2 multimode fibres
- OM1 For 62.5/125 OM1 multimode fibres
- OS2 For 9/125 OS2 Single-mode fibres (G 652D)

EXAMPLE 1: A-DQ(ZN)(SR)2Y 12G 50/125 OM3

Outdoor cable with corrugated steel sheath, central loose tube, non-metallic strain relief made of glass yarn, 12 fibres, 50/125 µm OM3 multimode fibres

EXAMPLE 2: J-V2Y(ZN)11Y 2P 980/1000

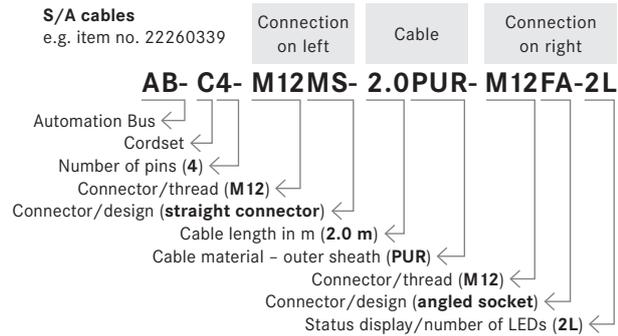
Plastic fibre-optic cable, two-fibre (duplex), indoor cable with PE inner sheath, non-metallic strain relief, PUR outer sheath

Type designations for UNITRONIC® SENSOR



S/A cables

e.g. item no. 22260339

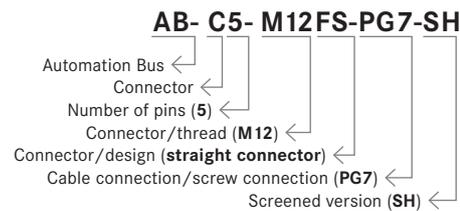


- MS - straight connector
- MA - angled connector
- FS - straight socket
- FA - angled socket
- M8, M12, M16, M23 - thread
- L - status display/LEDs
- SH - screened version
- HD - Hygienic Design
- VA - stainless steel knurl

- M12Y - M12 Y connector
- B - bridged
- 3-, 4-, 5-, 8-, .. number of pins
- A, AD, B, BI, C, CI - valve connector type
- S - valve connector with Z diode
- SV - valve connector with varistor
- SVC - valve connector with varistor and commutator
- SUP - valve connector with suppressor diode



mountable connector e.g. item no. 22260127

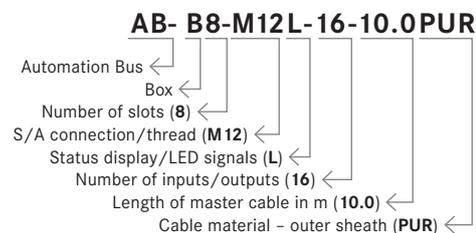


- MS - straight connector
- MA - angled connector
- FS - straight socket
- FA - angled socket
- P - piercing connection
- SH - screened version
- M8, M12, M16, M23 - thread
- 3-, 4-, 5-, 8-, .. number of pins

- PG7, PG9, PG11, PG13 - cable connection
- F0.34 (fast connection, max. 0.34 mm² cond. cross-sec.)
- F0.75 (fast connection, max. 0.75 mm² cond. cross-sec.)
- M16-0.5 (M16 flush-type conn. with 0.5 m PUR strand)
- PG9-0.5 (PG9 flush-type conn. with 0.5 m PUR strand)
- DSI - flush-type connector (rear wall mounting)
- PO - flush-type connector (can be positioned)



S/A passive distributor box e.g. item no. 22260025



INFO: S/A box with **double** assignment → $\frac{\text{(number of inputs/outputs)}}{\text{(number of slots)}} = 2$

- PUR - distributor box with perm. connected master cable (PUR)
- C - distributor box with master cable conn. (pluggable screw connection)
- M8L - distributor box with M8 slots and LED signals
- M16 - distributor box with M16 master cable conn.
- M12 - distributor box with M12 master cable conn.

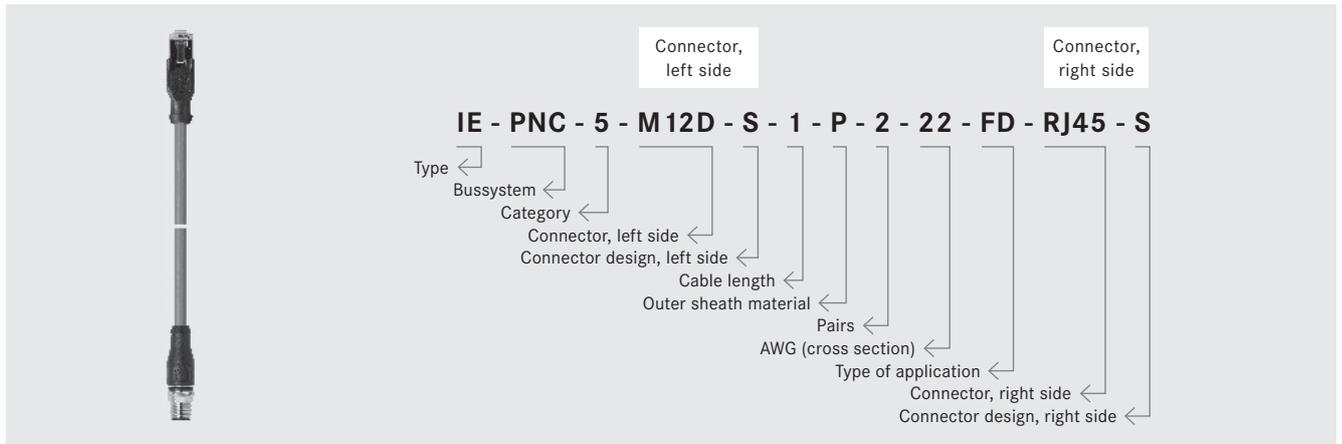
Further abbreviations:

- AB-PC - Automation Bus Power Cable
- AB-PB - Automation Bus PROFIBUS
- AB-DN - Automation Bus DeviceNet

- AB-ASI - Automation Bus AS-Interface
- AB-ASI-J - AS-Interface distributor

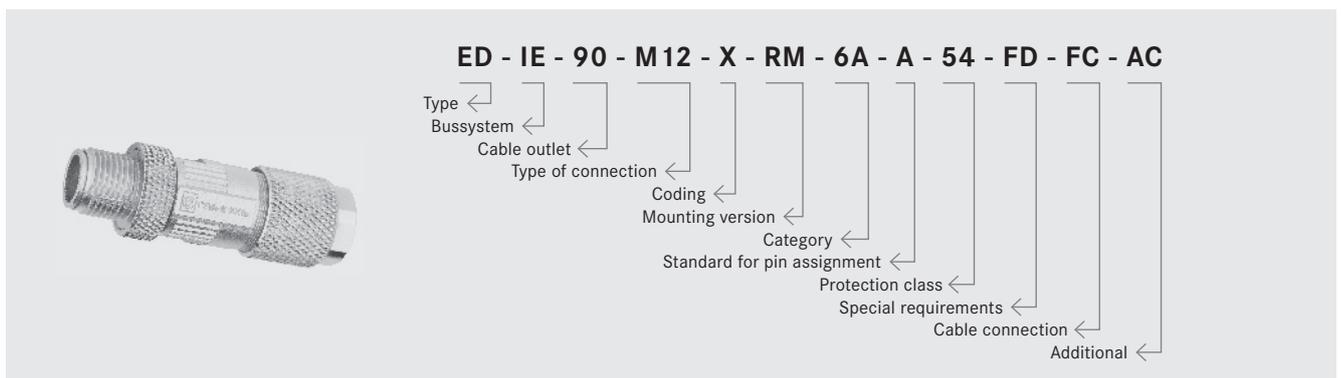
Table 6-3: Data communication systems for ETHERNET technology

Industrial ethernet articlecode for patchcords



<p>1. Type</p> <p>IE Industrial Ethernet</p> <p>2. Bussystem</p> <p>N/A Default Ethernet PNA PROFINET® Type A PNB PROFINET® Type B PNC PROFINET® Type C EC EtherCAT®</p> <p>3. Category</p> <p>5 Cat.5/Cat.5e 6 Cat.6 6A Cat.6_A</p>	<p>4. Connector, left side</p> <p>M8 M8 A-coded, male M8F M8 A-coded, female M12D M12 D-coded, male M12DF M12 D-coded, female M12X M12 X-coded, male M12XF M12 X-coded, female RJ45 RJ45 male</p> <p>5. Connector design, left side</p> <p>S Straight (180°) A Angled (90°)</p> <p>6. Cable length</p> <p>0,5 0,5 m 1 1 m 2 2 m 5 5 m 10 10 m 15 15 m 20 20 m</p>	<p>7. Outer sheath material</p> <p>H Halogen free P PUR Y PVC</p> <p>8. Pairs</p> <p>2 2 x 2 cores 4 4 x 2 cores</p> <p>9. AWG (cross section)</p> <p>22 AWG22 23 AWG23 24 AWG24 26 AWG26 27 AWG27</p>	<p>10. Type of application</p> <p>1 Fixed installation 7 Flexible application FD Drag chain application T Torsion stressed application</p> <p>11. Connector, right side</p> <p>M8 M8 A-coded, male M8F M8 A-coded, female M12D M12 D-coded male M12DF M12 D-coded female M12X M12 X-coded male M12XF M12 X-coded female RJ45 RJ45 male OE Open conductor end</p> <p>12. Connector design, right side</p> <p>S Straight (180°) A Angled (90°)</p>
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EPIC® DATA Code for Ethernet applications



<p>1. Type</p> <p>ED EPIC® DATA</p> <p>2. Bussystem</p> <p>IE Industrial Ethernet</p> <p>3. Cable outlet</p> <p>90 90° AX Straight (0°)</p> <p>4. Type of connection</p> <p>N/A/RJ45 RJ45 male RJ45F RJ45 female M12 M12 male M12F M12 female</p>	<p>M8 M8 male HY Hybrid H H3A</p> <p>5. Coding</p> <p>N/A D-coded A A-coded D D-coded X X-coded</p> <p>6. Mounting version</p> <p>RM Rear-mounting FM Front-mounting</p>	<p>7. Category</p> <p>5 Cat.5/Cat.5e 6 Cat.6 6A Cat.6_A</p> <p>8. Standard for pin assignment</p> <p>A T568A B T568B PN PROFINET®</p> <p>9. Protection class</p> <p>N/A IP20 (= Standard) 54 IP54 65 IP65 67 IP67 68 IP68</p>	<p>10. Special requirements</p> <p>FD Especially for 19 wire stranded cores</p> <p>11. Cable connection</p> <p>N/A Screw (= Standard) FC Fastconnect FZ Spring type</p> <p>12. Additional</p> <p>AC-DC Accessory Dust Cap</p>
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