

Table 6-1: 제어 케이블과 하모나이즈드 케이블의 약어 설명 (발취)

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)
- StIII 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: 통신 케이블과 광 케이블의 약어 설명

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)

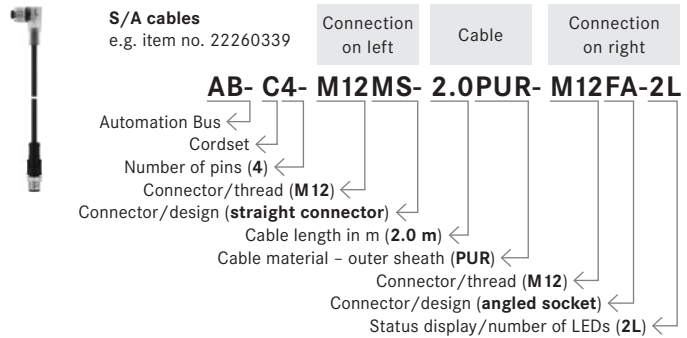
EXAMPLE 1: A-DQ(ZN)(SR)2Y 12G 50/125 OM3

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

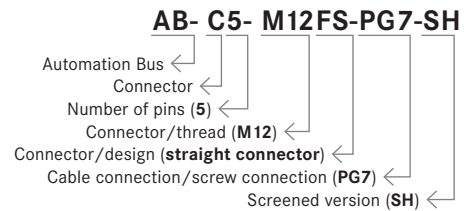
Type designations for UNITRONIC® SENSOR



- 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



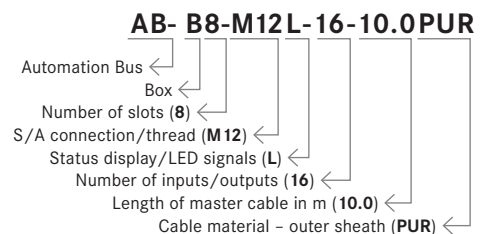
mountable connector e.g. item no. 22260127



- 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 → $\frac{\text{(number of inputs/outputs)}}{\text{(number of slots)}} = 2$

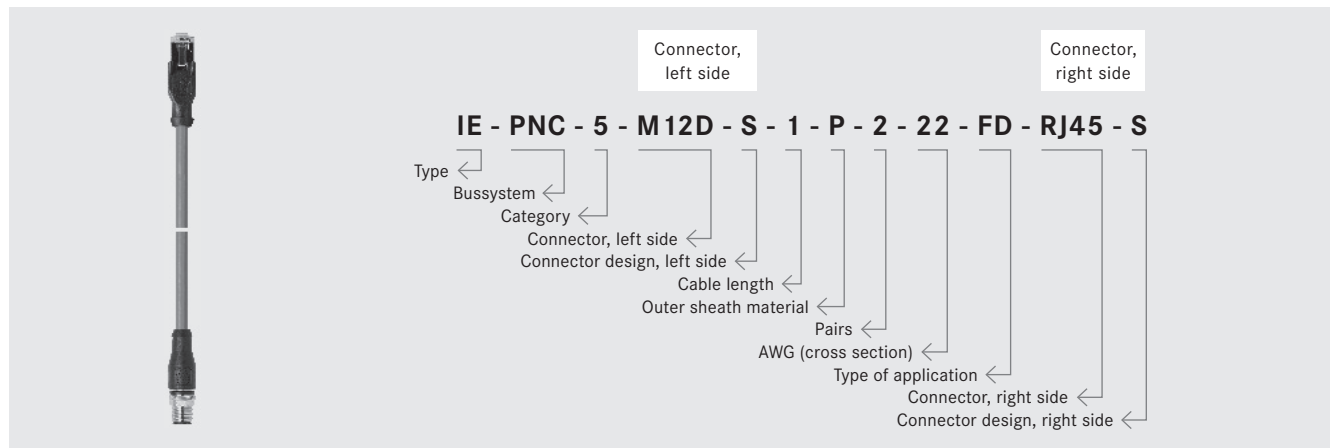
- PUR - distributor box with perm. connected master cable (PUR)
- C - distributor box with master cable conn. (pluggable screw connection)
- M8L - distributor box with M8 slots and LED signals
- M16 - distributor box with M16 master cable conn.
- M12 - distributor box with M12 master cable conn.

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

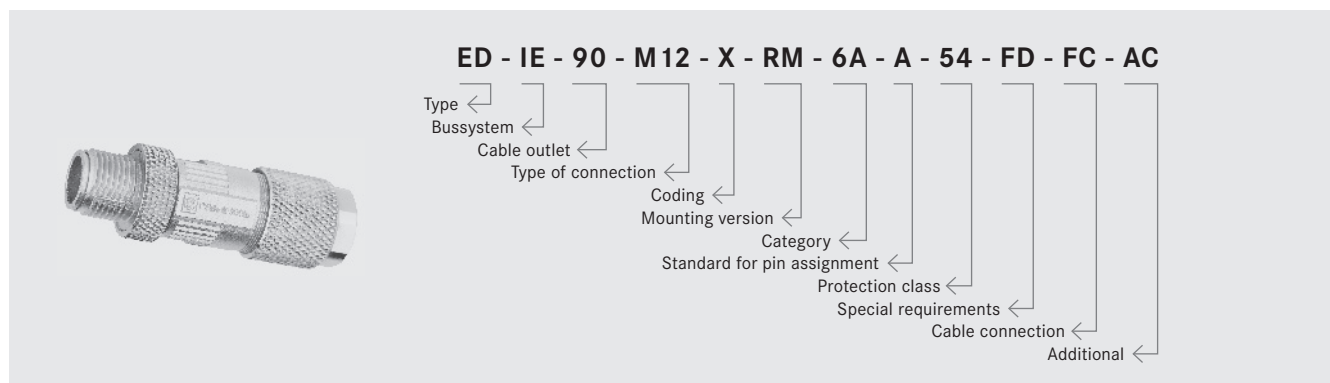
표 6-3: ETHERNET 기술용 데이터 통신 시스템

패치코드용 산업용 이더넷 아티클코드



<p>1. Type IE Industrial Ethernet</p> <p>2. Bussystem N/A Default Ethernet PNA PROFINET® Type A PNB PROFINET® Type B PNC PROFINET® Type C EC EtherCAT®</p> <p>3. Category 5 Cat.5/Cat.5e 6 Cat.6 6A Cat.6_A</p>	<p>4. Connector, left side 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 S Straight (180°) A Angled (90°)</p> <p>6. Cable length 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 H Halogen free P PUR Y PVC</p> <p>8. Pairs 2 2 x 2 cores 4 4 x 2 cores</p> <p>9. AWG (cross section) 22 AWG22 23 AWG23 24 AWG24 26 AWG26 27 AWG27</p>	<p>10. Type of application 1 Fixed installation 7 Flexible application FD Drag chain application T Torsion stressed application</p> <p>11. Connector, right side 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 S Straight (180°) A Angled (90°)</p>
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이더넷 분야용 EPIC® DATA Code



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