

**Datasheet**

# Measuring cable

for active sensors



### AK12.4 (standard cable)

ideal in an EMC-critical environment  
 according to DIN 47100 with UL approval,  
 robust, for mobile and stationary use  
 double shielded for high signal quality  
 12-pin connector on both sides, straight design

### AK12.2

thin, highly flexible cable according to DIN 47100 (NOT for DRVL!)  
 for mobile devices and short connections up to 5 m  
 12-pin connector on both sides, straight design

### AK12.5 (robot cable, suitable for drag chains)

Use in stationary use with constant movement, according to DIN 47100  
 Connection and control cable for bending and torsion applications under harsh operating conditions  
 12-pin connector on both sides, straight design

## Technical Specifications

	AK12.4 (Standard)	AK12.2	AK12.5
Measuring Cable	4 x 0,14 mm <sup>2</sup> + 6 x 0,14 mm <sup>2</sup> + 2 x 0,25 mm <sup>2</sup>	12 x 0,05 mm <sup>2</sup>	12 x 0,14mm <sup>2</sup>
Rated voltage	150 V	100 V	48 V/AC
Outside-Ø	approx. 6,9 mm	approx. 4,8 mm	approx. 6,7 mm
Bending radius fixed installation moving use	10 x Outer diameter 15 x Outer diameter	>10 x Outer diameter	4 x Outer diameter 15 x Outer diameter
Temperature range fixed installation moving use	-30°C up to +80°C -20°C up to +80°C	-20°C up to +70°C -5°C up to +70°C	-50°C up to +80°C -40°C up to +80°C
Protection class	IP40 (optional IP67)	IP40 (optional IP67)	IP40 (optional IP67)
Oversheath	PUR, matt, flame retardant, low adhesion	S-PVC according to VDE0207	PUR, UV-resistant, oil-resistant, Suitable for outdoor use
Oversheath-colour	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

## Cabel lenth

2,5 m

5,0 m

10 m (only AK 12.4 and AK 12.5)

Other lengths on request

## Option B; with angle connector

B0 = measuring cable led away to the right of the measuring side

B90 = measuring cable led away in the direction of the drive side

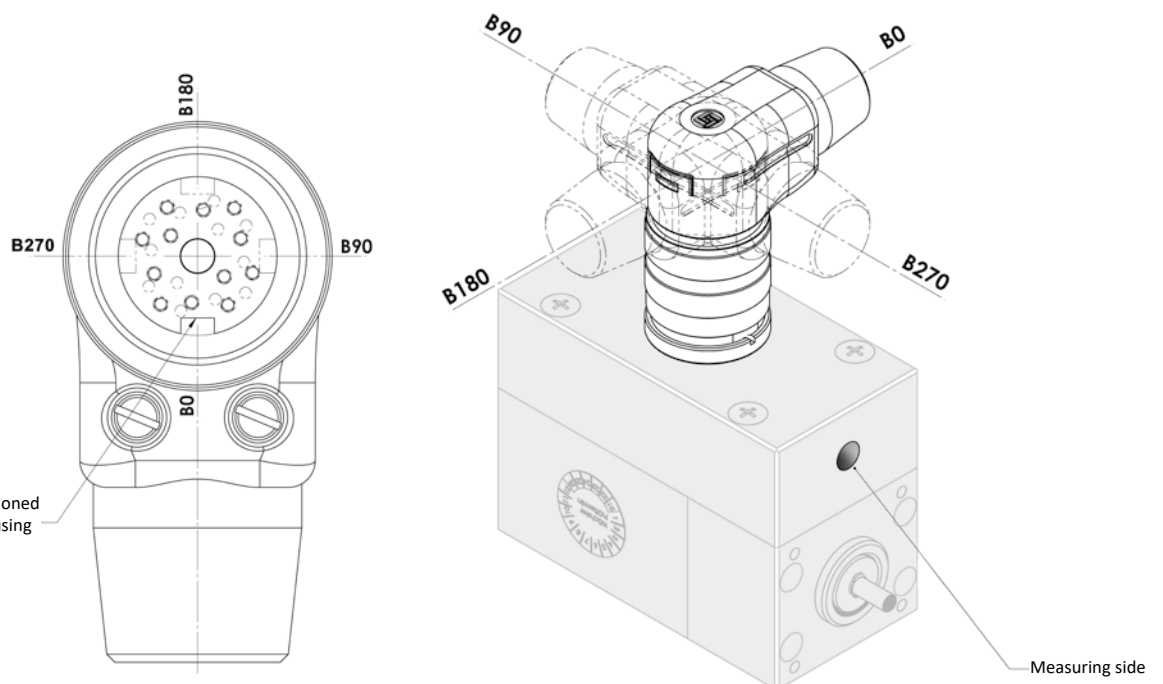
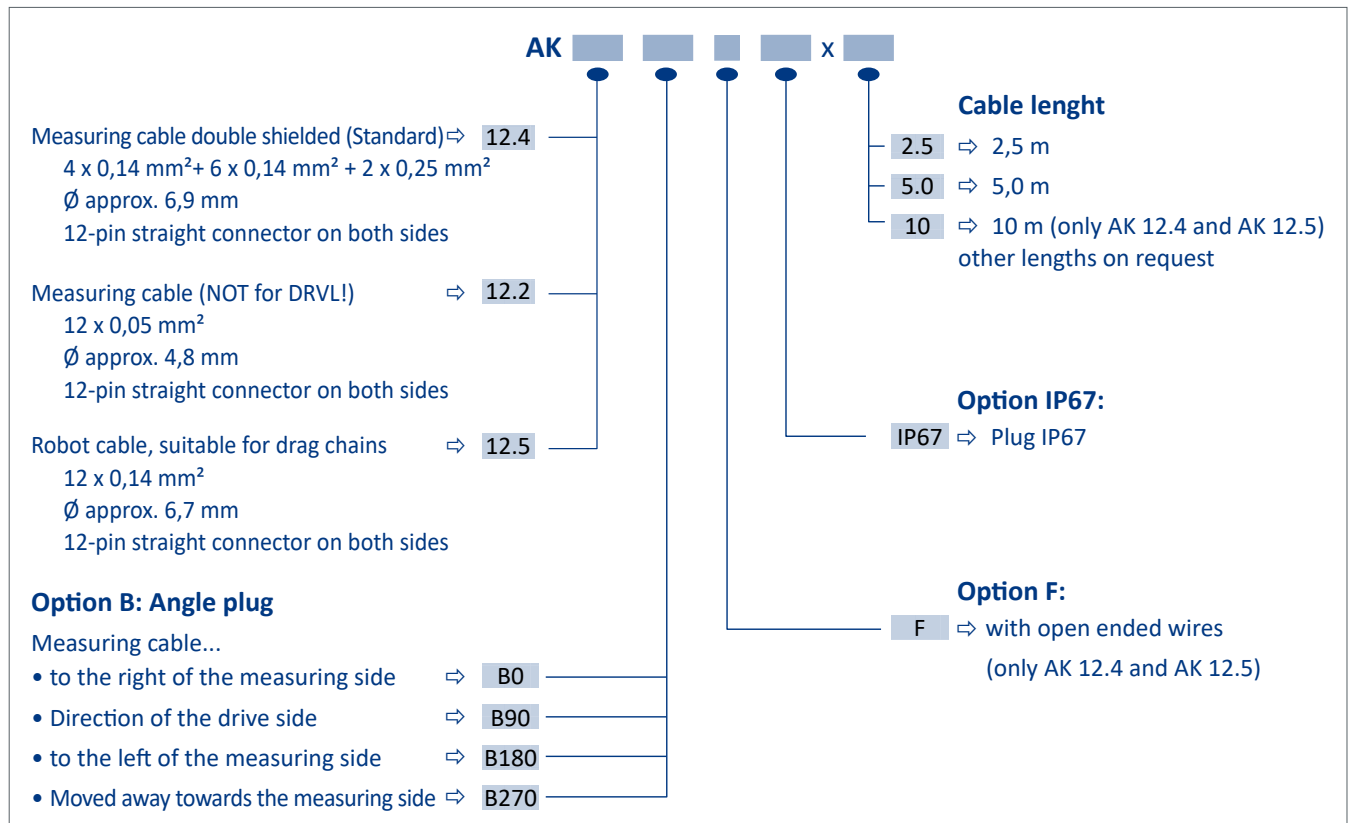
B180 = measuring cable led away the left of the measuring side

B270 = measuring cable led away in the direction of the measuring side

## Option F;

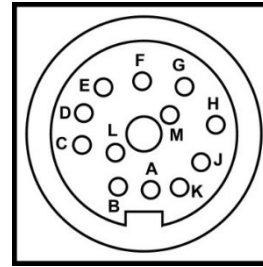
Measuring cable with open end wires

## Ordering Code



## Pin assignment of 12-pin connector Standard cable for active sensors

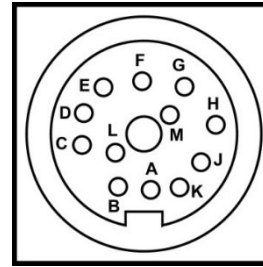
### AK12.4



Pin	Colour	Connection DRVL	Connection DRDL	Connection DRBK	Connection active static sensores	Connection DRFN / DRFS / DRFSK
A	Green	Frequency output	NC	Message Ready	NC	NC
B	Red / Blue	Angle exit track B = 90 °	Angle exit track B = 90 °	NC	NC	Angle exit track B = 90 °
C	Yellow	Moment exit	Moment Exit small measuring range	Moment voltage output	Moment exit	Moment exit
D	White	Moment mass	Moment mass	Moment voltage mass	Moment mass	Moment mass
E	Grey	Supply + angle / speed ground	Supply + angle / speed ground	Supply + speed + current ground	Supply	Supply + angle / speed ground
F	Pink	Supply + 9... 28V	Supply +12V	Supply +11...28V	Supply +12V	Supply +12V
G	Grey / Pink	Speed / angle output track A = 0 °	Speed / angle output track A = 0 °	Speed output	NC	Speed- / Angle output track A = 0°
H	Purple	Memory chip	Memory chip small measuring range	Memory chip	Memory chip	Memory chip
J	Black	Message ready for operation	Memory chip large measuring range	NC	NC	NC
K	Red	Control entrance	Control input	NC	Control input	Control input
L	Brown	Inverted frequency output	Moment output large measuring range	Moment current output	NC	NC
M	Blue	Voltage reference angle signal	NC	NC	NC	NC

## Pin assignment of 12-pin connector Robot cable for active sensors

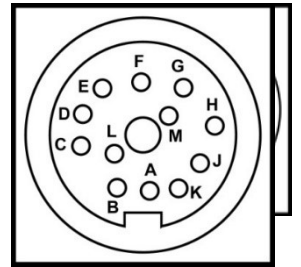
### AK12.5



Pin	Colour	Connection DRVL	Connection DRDL	Connection DRBK	Connection active static sensores	Connection DRFN / DRFS / DRFSK
A	Black	Frequency output	NC	Message Ready	NC	NC
B	Red	Angle exit track B = 90 °	Angle exit track B = 90 °	NC	NC	Angle exit track B = 90 °
C	Brown	Moment exit	Moment Exit small measuring range	Moment voltage output	Moment exit	Moment exit
D	White	Moment mass	Moment mass	Moment voltage mass	Moment mass	Moment mass
E	Yellow	Supply + angle / speed ground	Supply + angle / speed ground	Supply + speed + current ground	Supply	Supply + angle / speed ground
F	Purple	Supply + 9... 28V	Supply +12V	Supply +11...28V	Supply +12V	Supply +12V
G	Green	Speed / angle output track A = 0 °	Speed / angle output track A = 0 °	Speed output	NC	Speed- / Angle output track A = 0°
H	Pink	Memory chip	Memory chip small measuring range	Memory chip	Memory chip	Memory chip
J	Grey	Message ready for operation	Memory chip large measuring range	NC	NC	NC
K	Grey/Pink	Control entrance	Control input	NC	Control input	Control input
L	Blue/Red	Inverted frequency output	Moment output large measuring range	Moment current output	NC	NC
M	Blue	Voltage reference angle signal	NC	NC	NC	NC

**Pin assignment of 12-pin connector**  
**Thin cable for mobile, small, active sensors**

**AK12.2**



Pin	Colour	Connection active static sensores	Connection DRFN / DRFS / DRFSK
A	Black	NC	NC
B	Red	NC	Angle exit track B = 90 °
C	Brown	Moment exit	Moment exit
D	White	Moment mass	Moment mass
E	Yellow + White/Yellow	Supply	Supply + angle / speed ground
F	Purple + Brown/Green	Supply +12V	Supply +12V
G	Green	NC	Speed- / Angle output track A = 0°
H	Pink	Memory chip	Memory chip
J	Grey	NC	NC
K	Grey/Pink	Control input	Control input
L	Blue/Red	NC	NC
M	Blue+ shield	NC	NC

## More Cables

### Connection cable GMV2- switchbox / Communication cable

Serial cable AK-4 GMV2 / PC 9-pin

### Connection cable GMV2- switchbox

Sub-D 9pin BU/ST 2,5 m