# SmartPlug SPN1-AP6-ARN6X / AN6-ARP6X TURCK

NPN/PNP converter, adjustable NO/NC inverter

- **direct adaptation between sensor and connecting cable**
- **NC/NO function adjustable**
- **simple setting via external teach-input**
- **no additional wiring required**
- **switching frequency up to 10 kHz**
- **switching amplifier up to 150 mA**

The SPN1 SmartPlug is a switching channel converter for the direct adaptation to sensors with a standardized M12 connection.


090-13386
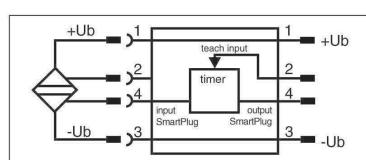
The SPN1 SmartPlug is available in 2 versions:

- PNP input - NPN output SPN1-AP6-ARN6X (for the conversion of PNP sensors to NPN output)
- NPN input - PNP output SPN1-AN6-ARP6X (for the conversion of NPN sensors to PNP output)

Connection:
The SmartPlug is very easy to connect: it is plugged onto the M12 connector of a sensor and the connecting cable is connected to the other side of the SmartPlug. The sensor configuration has to meet the standards (1 +Ub (BN)   3 -Ub (BU)   4 output (BK)).

Function:
The SmartPlug SPN1-AP6-ARN6X is converting a PNP input signal into a NPN output signal.
The SmartPlug PN1-AN6-ARP6X is converting a NPN input signal into a PNP output signal.
Additionaly the signal can be inverted (NC/NO function).
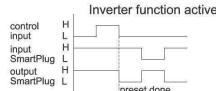
Setting:
The setting of the inverting function is made by means of the signals "teach input" and "input SmartPlug".
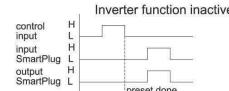
Example:
1. Setting the SmartPlug into the inverting mode
a) activate sensor (output is on)
b) connect teach input and +Ub and disconnect (puls to +Ub). READY

2. Setting the SmartPlug into the non inverting mode (factory setting)
a) inactivate Sensor (output is off)
b) connect teach input and +Ub and disconnect (puls to +Ub). READY

This setting is maintained when the sensor is off.

E55-00073 Inverter function active

E55-00074 Inverter function inactive

H = input / output active; L = input / output inactive

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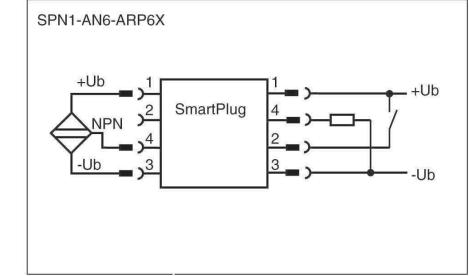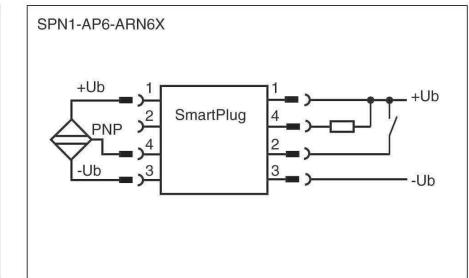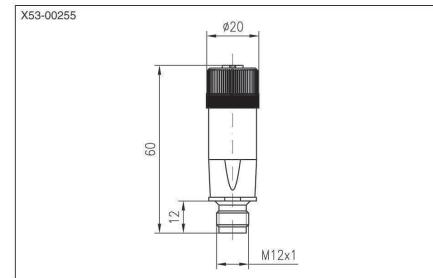
PNP/NPN converter, adjustable NO/NC inverter

Technical data:

Operating voltage:	10 ... 30 V DC, residual ripple of max. 10 %	Display:	red LED
Own current consumption:	< 10 mA	Housing material:	plastic PBTP/PA
Input resistance:	> 10 kOhm	Protection standard:	IP 67
Max. input frequency:	10 kHz	Dimensions:	ø20 x 60
Min. response time:	0.1 ms	Connection Input:	4-pin socket M12
Max. output current:	150 mA short-circuit proof	Connection Output:	4-pin connector M12
Ambient temperature range:	0 ... +60 °C	Protection class (only if both ends connected):	
Storage temperature range:	-20 ... +60 °C	Weight:	15 g

X53-00255

SPN1-AP6-ARN6X

SPN1-AN6-ARP6X

Function	SmartPlug	Setting
N.C./N.O. inverter	SPC1	Interval counter 1
Flip Flop	SPC1	Interval counter 2
Divider (1 pulse per evolution)	SPC1	Pulse counter n
Count parts (count down)	SPC1	Pulse counter n
Amplifier 150 mA	SPC1	Pulse counter 1
Off delay	SPT1	Off delay n
On delay	SPT1	On delay n
PNP / NPN converter	SPN1-AP6-ARN6X	Factory setting
NPN / PNP converter	SPN1-AN6-ARP6X	Factory setting
PNP / NPN converter and N.C./N.O. inverter	SPN1-AP6-ARN6X	Setup: N.O. -> N.C.
NPN / PNP converter and N.C./N.O. inverter	SPN1-AN6-ARP6X	Setup: N.O. -> N.C.
Motion monitor	SPF1-AP6X	
Spin monitor	SPF1-AP6X	
Jam monitor	SPF1-AP6X	

CE

ⓘ SmartPlugs may only be used in combination with a proximity switch according to EN IEC 60947-5-2.

⚠ These units are not suited for safety related applications.