

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

PNP/NPN or NPN/PNP converter, adjustable N.O./N.C. inverter

- Direct adaptation between sensor and connecting cable
- N.C./N.O. function adjustable
- Simple setting via external teach-input
- No additional wiring required
- Switching frequency up to 10 kHz
- Switching amplifier up to 400 mA



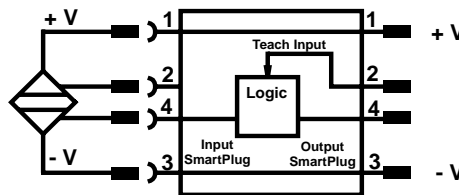
The SPN1 SmartPlug is a switching channel convertor for the direct adaptation to sensors with a standard M12x1 connection.

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 M12x1 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 +V (BN) 3 -V (BU) 4 output (BK) ).



## Function:

The SmartPlug SPN1-AP6-ARN6X converts a PNP input signal into a NPN output signal. The SmartPlug SPN1-AN6-ARP6X converts a NPN input signal into a PNP output signal. Additionally the signal can be inverted (N.C./N.O. 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 +V and disconnect (pulse or signal to +V). READY
2. Setting the SmartPlug into the non-inverting mode (factory setting)
  - a) inactivate Sensor (output is off)
  - b) connect teach input and +V and disconnect (pulse or signal to +V). READY

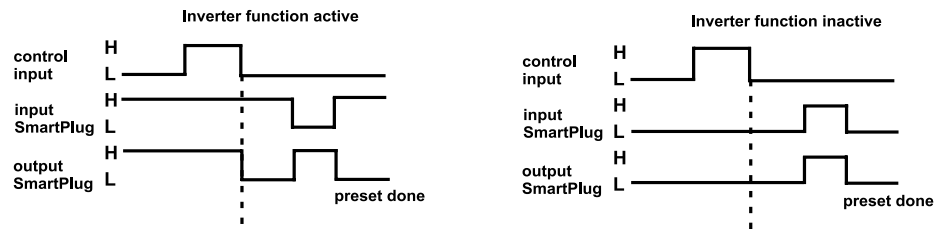
This setting is maintained when the sensor is off.

## Technical Data

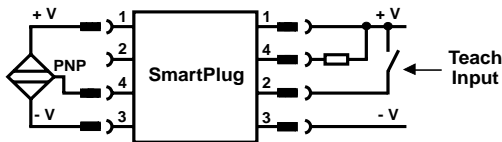
**Operating Voltage:** 10-30 VDC, residual ripple of max. 10%  
**Own Current Consumption:** <10 mA  
**Input Resistance:** >10 kΩ  
**Max. Input Frequency:** 10 kHz  
**Min. Response Time:** 0.1 ms  
**Max. Output Current:** 400 mA short-circuit proof  
**Ambient Temperature Range:** 0° to +60°C (+32° to +140°F)  
**Storage Temperature Range:** -20° to +60°C (-4° to +140°F)

**Display:** Red LED  
**Housing Material:** Plastic PBTP/PA  
**Protection Standard:** IP 67  
**Dimensions Inches[mm]:** See diagram  
**Connection Input:** 4-pin socket M12x1  
**Connection Output:** 4-pin connector M12x1  
**Weight:** 15 g

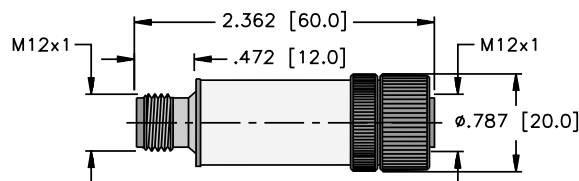
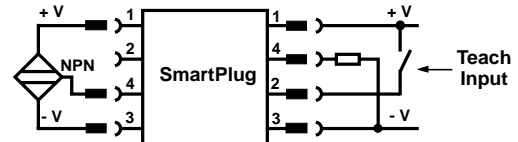
H= input/output active  
 L= input/output inactive



SPN1-AP6-ARN6X



SPN1-AN6-ARP6X



Function	SmartPlug	Setting
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.