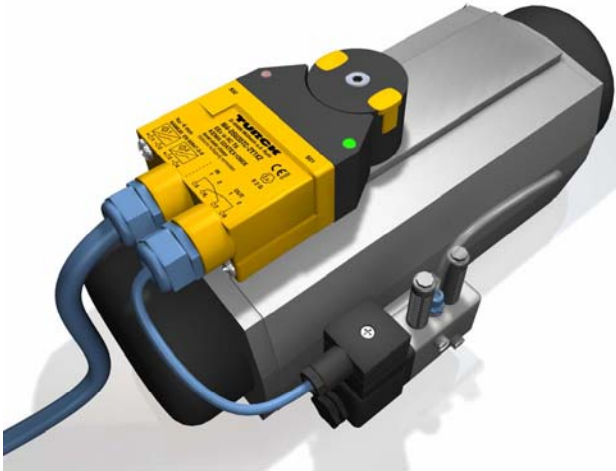


Product Information



TURCK

Industrial
Automation

Dual sensor expansion of the product range

The successful range of dual sensors of the DSU35 type has been extended by some new products which are all available, most of them directly from stock. The range of applications has been extended considerably with these expansions in the range.

Ni4-DSU35TC-2AP4X2/3GD

Ident.-no. 1569911

This new dual sensor available ex-stock is for feedback of the positions in ATEX gas zone 2 or dust zone 22. It features standard PNP outputs and the proven terminal chamber which is also suitable for connection of the solenoid. It is easy for the customers to use as intrinsically safe operation is not required. It must be considered that the sensor must be protected against mechanical impacts. Here too TURCK offers a standard solution with the protective housing "safety guard" type **SG-DSU35TC** (see below). This protective housing is described as sufficient protection in the operating instructions which is included in the data sheet. It simplifies the acceptance of the systems by inspection authorities such as the TÜV.

Competitors: IFM only has NAMUR versions, which can also be used in zone 2 or 22 but which must be operated as intrinsically safe devices. If this option is preferred by a customer, our NAMUR sensors of course can also be used. P&F has "3GD" versions, however only in NAMUR. They do not require intrinsically-safe operation in zone 2 or 22, but the operating instructions are "complicated" and include mention of an additional series resistor.

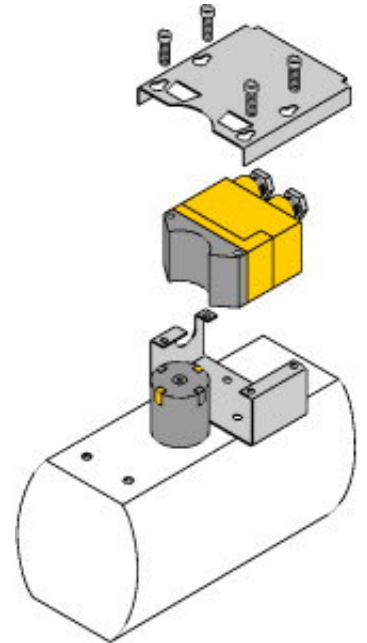
SG-DSU35TC Ident.-no. 6900437

The protective housing "Safety guard" for dual sensors of the DSU35TC series is suitable if a mechanically protected design (e.g. for approval reasons) is prescribed. The customers are thus offered a simple solution in order to avoid discussions with the inspection authorities such as the TÜV with regard to the installation situation. The housing is a robust stainless-steel design and features inspection openings for the sensor LED's. A removable cover provides simple access to the terminal chamber. The housing is mounted on the rotary actuator using the same M5 screws as used for mounting the sensor.

ATEX II 1 D (Dust Ex Zone 20) for DSU35-NAMUR

With immediate effect the dual sensors of the DSU35 series with NAMUR output are marked with an additional ATEX approval for use in the Dust Ex zone. This means that we offer a solution which includes the areas which are most endangered by a dust explosion-hazard (zone 20). It must be considered that the sensor must be protected in the dust-hazard area against mechanical impact. The above mentioned protective housing is also used here. The additional approval marking has no influence on the price, Ident.-no. or type description for all the devices concerned.

Competitors: IFM: also have NAMUR dual sensors with ATEX II 1 D. These are also not subject to mechanically protected installation because their approval is based on a new preliminary draft standard. TURCK is also working on a solution of this type. P&F: also have dual sensors with the corresponding ATEX marking. A note regarding mechanically protected installation is practically "hidden" in the operating instructions. Furthermore, P&F do not have a solution concerning mechanically protected installation (protective housing) on offer.



Ni4-DSU35TC-2AD4X2

Ident.-no. 4430130

The device is an attractively-priced alternative to the 2-wire AC/DC versions, if only 2-wire DC sensors are required.

Competitors:

IFM: only AC/DC versions which are about 15% above our list price, however without terminal chamber version.

P&F: NBN3-F31K-Z8

Ni4-DSU35-2AP4X2-B1160-FKE4.5

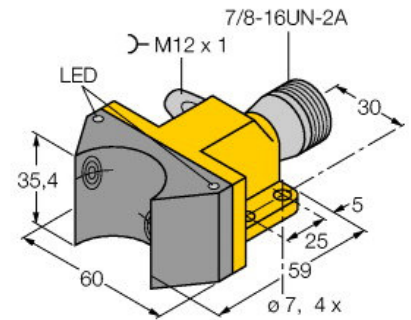
Ident.-no. 1569923

This sensor extends the TURCK range of pluggable devices and thus complements the "plug-and-play" concept. Both the sensors and the solenoid are connected via the 7/8" MiniFast connector. The connection to the magnetic valve can be continued as a pluggable version with the side M12 female flange connector. These sensors are suitable for the food processing field or external use as all the external metal parts are made of stainless steel. Competitors: IFM: IN5334 Device does not feature a stainless steel flange or connector

parts. P&F: NBN3-F31-Z8-V16-V16 However the device has a valve connection for valves of the non-standard Rd24 (M18) flange socket.

BTS-DSU35-EBE1 and **BTS-DSU35-EBE2** Ident.-no. 6900226 or 6900228

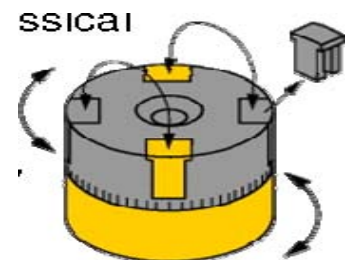
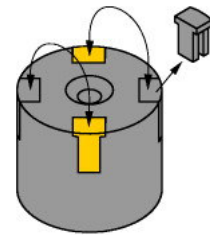
The standard target BTS-DSU35-EB1 has been modified in Summer 2004. A lot of positive customer response has confirmed that the optical display which can be rotated by 90° is very advantageous.



TURCK now offers this advantage for the puck BTS-DSU35-EBE1 and ...-EBE2 with adjustable “open” position. The “closed” feedback is fixed according to VDI/VDE at 0°. A degree marking all around simplifies the setting / adjustment during mounting. As the new improved version is downward compatible, a conversion has been made using the same Ident.-no. and price.

BTS-DSU35-EBE1-2
Ident.-no. 6900497

On this puck the “open” and “closed” position are adjustable. A class II application example is with rubber butterfly valves. Here the end positions “closed” = 0° and “open” = 90° are not always achieved, as the flaps are already fully closed for example at 5°. TURCK offers a standard solution with the puck BTS-DSU35-EBE1-2. It is visually different from other pucks as the lower half is yellow.



SIL2 according to IEC 61508

As already stated in August of this year in a special production information edition, we have received a certificate from the TÜV which states that almost all TURCK sensors with NAMUR output are suitable for use in safety-related systems including SIL2 to IEC 61508. Naturally, the dual sensors also profit from this. This means that on the target market (process automation) standard TURCK products can be used where SIL is already an important and much talked about issue. This is where we offer a clear competitive advantage, because we can offer a very wide product range of standard items ex-stock.

Connection of dual sensors to Profibus-PA valve stations

Valve stations are used frequently in the process industry, on which up to 4 butterfly-or ball valves incl. their position feedbacks can be connected to Profibus-PA. Every "open" and "closed" position feedback (i.e. every dual sensor) is connected anti-parallel with just 2 conductors. The (NAMUR) operating voltage changes the polarity cyclically. This means that Sensor#1 e.g. receives voltage for 2 msec. and must register its status within this time. Thereafter, the polarity of the voltage changes and Sensor#2 is scanned for 2 msec. The sensors have to be fast (operational within 2 msec.) and feature reverse polarity protection. Both are not a problem for our NAMUR dual sensors. We had our Ni4-DSU35TC-2Y1X2 successfully tested by an independent test laboratory (Infraserv in Frankfurt a.M.). A protocol of this test is available.

Competitors: P&F who also manufacture valve stations for Profibus-PA also confirm to their customers that their own dual sensors also function impeccably. If other (TURCK) dual sensors are to be used, P&F usually tries to unnerve the customers. The Infraserv protocol can be shown to the customer here in order to prove problem-free operation.

Documentation:

◆ The technical documentation includes individual data sheets. PDF data sheets are available for all types in German and English on the Internet and Intranet. If you have any questions or comments concerning this topic, please contact the Position and Proximity Sensor product management.

Sander Makkinga Position and Proximity Sensors Product Specialist

8.12.2005