


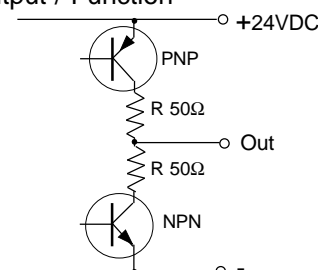
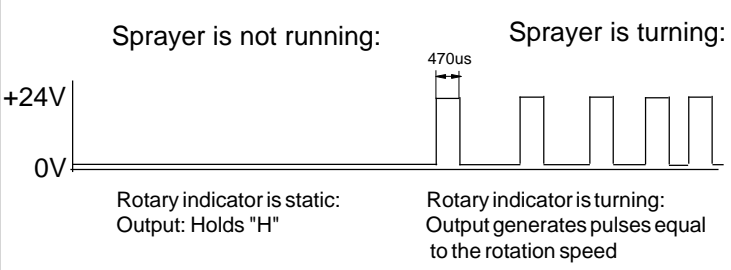
CE 0158



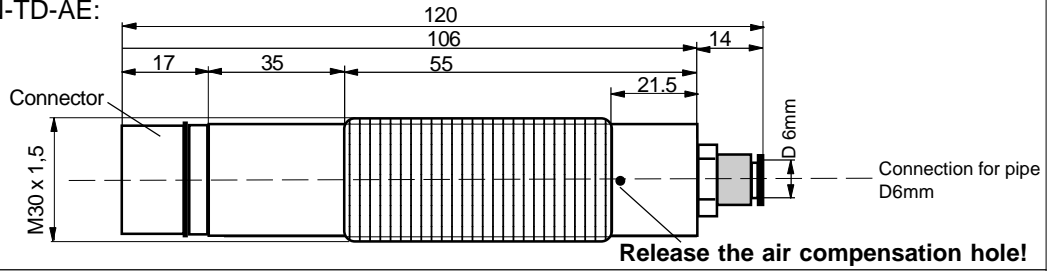
II 3 G EEx nA II T6

## A/E-Converter IRN-TD-AE

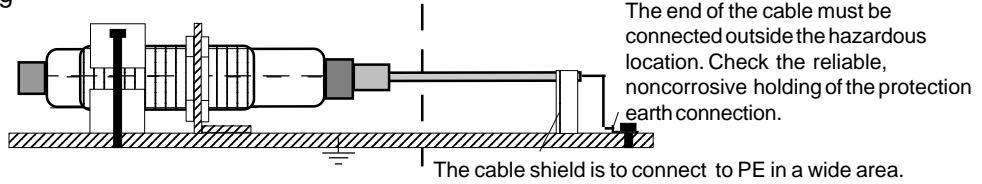
- **Applicable only in Ex Zone 2 (ATEX)**
- For rotation speed detection at Sames sprayers PPH607 from 2000 RPM up to 60'000 RPM

| Type  | IRN-TD-AE   |
|---|---|
| <b>Technical Data</b>                                 |   |
| Type of ex protection, Gas at 94/9/EC                 | II 3 G EEx nA II T6   |
| Applicable in Ex Zone                                 | Zone 2  |
| Compressed-air supply for rotation speed detection:   | 140 kPa to 300 kPa (at the sprayer)<br>(must be adjusted to the sprayer)  |
| Length of compressed-air piping (D=4/6mm)             | minimum 1.8m to maximum 2.5m (Sprayer to sensor)  |
| absolute max. air pressure at the sensor              | 500 kPa   |
| Range of rotation speed control                       | 2'000 RPM to 60'000 RPM   |
| Output rise and fall time                             | <30us   |
| Supply voltage  | 24 VDC (20 to 28VDC)  |
| maximum supply voltage                                | Um ≤ 30VDC  |
| Current consumption                                   | 25mA  |
| maximum power dissipation                             | 0.7W  |
| Output  | 1 x Push-Pull, short circuit protected, maximum 20mA  |
| Output impedance                                      | 50Ω   |
| Housing   | M30, yellow brass, nickel plated  |
| Enclosure rating at EN 60529                          | IP 54, compressed-air supply connected  |
| Ambient operating temperature TA                      | 0°C < TA < +50°C  |
| Electrical connection                                 | Socket: Binder Series 717, 5 terminals  |
| Compressed-air supply connection                      | for pipes D6mm/4mm  |
| Accessories included                                  | - 2x nuts M30<br>- 1x Safety lock screw for connector types Binder series 717, for fixing the connector housing at the sensor. The original screw must be exchanged by the new safety screw.<br>- 1x Warning plate "Do not separate when supply voltage connected", self-sealing, for gluing on the cable connector.<br>- 1x Protection cap for the sensor connector. |
| Accessories optional                                  | - Cable connector: Binder 717 No: 09-0534-00-05   |
| Adjustment of the air pressure supply to the sprayer: | - Preset the compressed-air supply at 100 kPa.<br>- Set the sprayer rotation speed at 2'000RPM.<br>- Increment the compressed-air supply for the A/E-converter to a stable function of the speed controlling unit.<br>- Check the range of rotation speed detection from 2'000RPM to 55'000RPM.<br>- See DÜRR installation instructions.                              |
| ATEX related designations                             | CE<br>Device type<br>TA: 0°C < TA < +50°C<br>Electrical data according to the chart<br>Date of construction: Numeral 4 to 7 of the serial number<br>Manufacturer with address<br><br>II 3 G EEx nA II T6   |
| Output / Function                                     | <br> <p>Sprayer is not running: Rotary indicator is static: Output: Holds "H"</p> <p>Sprayer is turning: Rotary indicator is turning: Output generates pulses equal to the rotation speed</p>  |

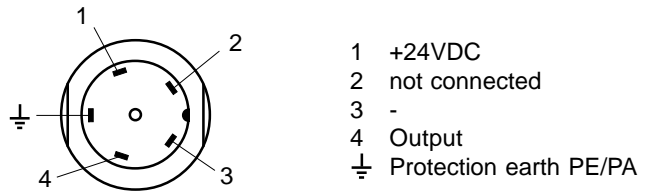
**Dimensions IRN-TD-AE:**



**Equipotential Bonding prescription:**



**Connection diagram:**



**Operating Manual / EC - Declaration of Conformity:**

**Mounting prescriptions for Ex protection:**

It is necessary to take into consideration the valid international and national rules and regulations. Do not exceed the absolute maximum supply voltage ( $U_m \leq 30VDC$ ). The local equipotential bonding have to be done. The protective earth (PE/PA) is solid connected with the housing. The cable have to be installed and protected against damages. To connect cables inside hazardous locations only use certificated Ex e housings. All cable terminals must be connected outside hazardous locations.

Do not separate the connector while the supply voltage is connected to the cable. When installing the sensor, the safety lock screw must be used for fitting the cable connection. The additional adhesive warning label must be fixed to the connector housing at the connection cable. Only connectors, Binder series 717 are allowed. It is necessary to take into consideration the mounting prescription of the connector manufacturer. In dusty locations, the protection caps for the sensor socket must be fitted. The A/E Converter type IRN-TD-AE is only applicable for the Ex zone 2.

**General mounting prescriptions:**

Do not cover the air decompression holes at the sensor housing. The length of the compressed-air pipes between the sensor and the sprayer must be 1.8m to 2.5m. Do not exceed the maximum ratings. The electrical connections must be exactly as shown in the connection diagram. The cable shield must be connected short. The cable shield should be connected to the protection earth, large-surfaced. Connection cables must not be installed parallel to high voltage cables.

**Function**

The turning sprayer lead to a compressed-air alteration. The sensor converts this alteration to an electrical output signal. A compressed-air supply of 200kPa, at the sprayer, gives a safe function for pipes from 1.8m to 2.0m. Do not exceed the absolute maximum pressure of 500kPa.

**Maintenance**

If the compressed-air supply is not connected, protect the compressed-air input and the decompression holes of the

sensor against any pollution and liquids. If the sensor is contaminated, clean with alcohol. Do not use aggressive solvents. Equipment must only be repaired or serviced by the manufacturer.

**Safety Informations**

The A/E-Converter IRN-TD-AE must not be used for Accident-Prevention! The dismantling of the connector safety lock device while the supply voltage is connected is hazardous! When installing and operating with the sensor, it is necessary to take into consideration the relevant international and other national regulations. ATEX 118a, ElexV, TRbF, TRD, UVV, EX-RL, BetrSichV.

**Standards met:**

- EN 50014:1997, EN 50021:2000;
- EN 60529, EN 50081-1/-2, EN 50082-1/-2
- Ex Protection: 94/9/EC (ATEX 100a)
- Machine directive: 98/37/EC
- Low voltage directive: 73/23/EWG, 93/68/EWG
- EMC: 89/336/EWG, 91/263/EWG, 92/31/EWG, 93/68/EWG
- RoHS directive 2002/95/EC
- Tech. File: ANA-TDAE3A

**General Notes**

We reserve the right to modify our equipment. Our equipment is designed such way, that it has the least possible adverse effect on the environment. It neither emit or contain any damaging or siliconized substances and use a minimum of energy and resources. No longer usable or irreparable units must be disposed of in accordance with local waste disposal regulations.

**CE Declaration of Conformity:**

Declaration of conformity by manufacturer.

Tech File No: ANA-TDAE3A

ATEX certification of quality type production of Ex devices at the directive 94/9/EC Certification No: BVS 03 ATEX ZQS / E118.

The conformity of the devices with the EC standards and directives and the EC-type examination certificate and the observation of the Quality Safety System ISO 9001:2000 with the ATEX module "Production", declares:

Hans Bracher, Matrix Elektronik AG

IRN\_TDAE\_G\_e14/2008-11-21/HB

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