



Translation

**EC-type Examination Certificate**

- Directive 94/9/EC -

Equipment and protective systems intended for use  
in potentially explosive atmospheres

**BVS 07 ATEX E 090**

- (4) **Equipment:** Power supply unit type NivOil sensor power supply \*
- (5) **Manufacturer:** IER Mess- und Regeltechnik GmbH
- (6) **Address:** 68199 Mannheim, Germany
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.  
The examination and test results are recorded in the test and assessment report BVS PP 07.2074 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
- |                  |                                |
|------------------|--------------------------------|
| EN 60079-0:2006  | General requirements           |
| EN 60079-11:2007 | Intrinsic safety 'i'           |
| EN 60079-26:2004 | Equipment group II category 1G |
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EC-type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.  
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate
- (12) The marking of the equipment shall include the following:

**II (1)G [Ex ia] IIB / IIA**

**DEKRA EXAM GmbH**

Bochum, dated 01. August 2007

Signed: Dr. Jockers

Signed: Dr. Wittler

Certification body

Special services unit

(13) Appendix to

(14) **EC-type Examination Certificate**

**BVS 07 ATEX E 090**

(15) 15.1 Subject and type

Power supply unit type NivOil sensor power supply \*

In the full marking the asterisk will be replaced by numbers.

- number 1 = variant of all intrinsically safe input circuits for connections E1 + E2 + E3 with a short circuit current value of  $I_o = 156$  mA for each channel.
- number 2 = variant of intrinsically safe input circuits for connections E1 + E2 with a short circuit current value of  $I_o = 156$  mA for each channel and a value of  $I_o = 100$  mA for channel E3.

15.2 Description

The power supply unit type NivOil sensor power supply \* consists of a plastic enclosure that contains a printed circuit board fitted with electronic components.

Intrinsically safe and non-intrinsically safe circuits are connected to terminals inside the enclosure.

The 3-channel intrinsically safe circuit of the sensor power supply is safely galvanically separated from the non-intrinsically safe circuits (supply and relay contacts) on the printed circuit board up to a sum of peak values of the nominal voltages of 375 V.

The power supply unit type NivOil sensor power supply \* is intended to be installed outside the potentially hazardous area.

15.3 Parameters

15.3.1 Non-intrinsically safe circuits

15.3.1.1 Supply circuit

Rated voltage AC 230 V  
 $U_m =$  AC 250 V

15.3.1.2 Relay contact circuits

Current type	AC				DC			
	250 V	250 V	24 V	110 V	220 V	24 V	110 V	220 V
Voltage	5 A	3 A	6 A	0.5 A	0.3 A	1.5 A	0.22 A	0.14 A
Current	100 VA	--	144 W	55 W	66 W	20 W	20 W	20 W
Power	--	$\geq 0,7$	--					
Cos								$\leq 40$ ms
L/R								

### 15.3.2 Intrinsically safe circuits

Variant		NivOil sensor power supply unit-1	
Circuit parameters		each channel	sum value
Channel name		E1, E2, E3	E1 + E2 + E3
Terminals		K1 (+), K1 (-)	K1 (+), K1 (-)
Voltage $U_o$		17.8 V	17.8 V
Current $I_o$		156 mA	468.5 mA
Power $P_o$		695 mW	2084 mW
Max. external capacity $C_o$	IIB	1.84 $\mu$ F	1.84 $\mu$ F
	IIA	7.9 $\mu$ F	7.9 $\mu$ F
Max. external inductance $L_o$	IIB	5.8 mH	648 $\mu$ H
	IIA	11.6 mH	1296 $\mu$ H
Max. relation inductance / resistance $L_o/R_o$	IIB	204.6 $\mu$ H/ $\Omega$	68.2 $\mu$ H/ $\Omega$
	IIA	409.3 $\mu$ H/ $\Omega$	136.4 $\mu$ H/ $\Omega$
Curve		linear	

Variant		NivOil sensor power supply unit-2		
Circuit parameters		each channel		sum value
Channel name		E1, E2	E3	E1 + E2 + E3
Terminals		K1 (+), K1 (-)	K1 (+), K1 (-)	K1 (+), K1 (-)
Voltage $U_o$		17.8 V	17.8 V	17.8 V
Current $I_o$		156 mA	94.7 mA	397.5 mA
Power $P_o$		695 mW	421.5 mW	1768 mW
Max. external capacity $C_o$	IIB	1.84 $\mu$ F	1.84 $\mu$ F	1.84 $\mu$ F
	IIA	7.9 $\mu$ F	7.9 $\mu$ F	7.9 $\mu$ F
Max. external inductance $L_o$	IIB	5.8 mH	19.6 mH	900 $\mu$ H
	IIA	11.6 mH	39.2 mH	1.8 mH
Max. relation inductance / resistance $L_o/R_o$	IIB	204.6 $\mu$ H/ $\Omega$	375.2 $\mu$ H/ $\Omega$	80.4 $\mu$ H/ $\Omega$
	IIA	409.3 $\mu$ H/ $\Omega$	750.5 $\mu$ H/ $\Omega$	160 $\mu$ H/ $\Omega$
Curve		linear		linear

15.3.3 Ambient temperature range  $-20\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$

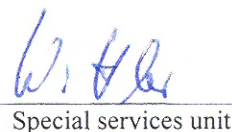
- (16) Test and assessment report  
BVS PP 07.2074 EG as of 01.08.2007
- (17) Special conditions for safe use  
None

We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 05.08.2008  
BVS-Scha/Ar E 1091/08

**DEKRA EXAM GmbH**

  
Certification body

  
Special services unit