



1 **TYPE EXAMINATION CERTIFICATE**
2 **Intrinsically Safe System Intended for use in Potentially Explosive Atmospheres**

- 3 Type Examination Certificate Number: **Baseefa03Y0366**
- 4 System: **A Transmet I.S. Dewpoint Transmitter System No. 2**
- 5 Certificate Holder: **MICHELL INSTRUMENTS LIMITED**
- 6 Address: **Nuffield Close, Cambridge, CB4 1SS**
- 7 This system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 8 Baseefa (2001) Ltd. certifies that this system has been found to comply with the following standards
EN 50039: 1980
- 9 The examination and test results are recorded in confidential Report No. **02(C)0473**
- 10 If the sign "X" is placed after the certificate number, it indicates that the system is subject to special conditions of safe use specified in the schedule to this certificate.
- 11 This TYPE EXAMINATION CERTIFICATE relates only to the design of the specified intrinsically safe system and not to specific items of equipment therein. It is the responsibility of the system certificate holder to supply the relevant documentation to the installer of the intrinsically safe electrical system referred to in this certificate. The installer has the responsibility to ensure that the system conforms to the specification laid down in the Schedule to this certificate and has satisfied routine verifications and tests specified therein.
- 12 The marking of the system shall include the following :

EEx ia IIC T4

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa (2001) Ltd. Customer Reference No. **4014**

Project File No. **02/0473**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the system may be used in particular industries or circumstances.

Baseefa (2001) Ltd.

Health and Safety Laboratory Site, Harpur Hill,
Buxton, Derbyshire SK17 9JN
Telephone +44 (0) 1298 28255 Fax +44 (0) 1298 28216
e-mail info@baseefa2001.biz web site www.baseefa2001.biz
Registered in England No. 4305578 at 13 Dovedale Crescent, Buxton,
Derbyshire, SK17 9BJ

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

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Schedule

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Certificate Number Baseefa03Y0366

15 System Description

A Transmet I.S. Dewpoint Transmitter System No. 2 comprises:

1. Apparatus that may be installed in a Non Hazardous Area (Safe Area.)

1.1 A Pepperl + Fuchs GB Ltd Transformer Isolated Solenoid Driver Type KFD2-SD-Ex1.48 to Certificate No.BAS00ATEX7216 and coded Ex II (1) GD [EEx ia] IIC (-20°C ≤ Ta ≤ +60°C).

Terminals 1 and 2.

$$U_o = 25.2V$$

$$I_o = 93mA$$

$$P_o = 0.59W$$

and having a 270Ω, 1%, 1W, metal film resistor connected in series with Terminal 1.

1.2 And a Pepperl + Fuchs GB Ltd Transformer Isolated Current Separator Type KFD0-CS-Ex1.50P or KFD0-CS-Ex1.50 to Certificate No.BAS98ATEX7343 and coded Ex II (1) GD [EEx ia] IIC (-20°C ≤ Ta ≤ +60°C).

Terminals 1 and 2.

$$U_o = 25.2V$$

$$I_o = 93mA$$

$$P_o = 0.585W$$

and having a 270Ω, 1%, 1W, metal film resistor connected in series with Terminal 1.

Both the Terminal 2 of the above units must be interconnected locally to the interface units and may optionally be connected to the cable screen.

NB These units, although meeting the segregation requirements for unspecified safe area apparatus of 375V peak, are subject to an operational limit on voltage of 40V.

1.3. The above apparatus is to be supplied from apparatus situated in the safe area which is unspecified except that it must not be supplied from nor contain in normal or abnormal conditions a source of potential with respect to earth in excess of 253 volts r.m.s. or 253 volts d.c.

2. Apparatus that may be installed in an area suitable for Category 1 equipment.

2.1 A Michell Instruments Ltd., Transmet I.S. Dewpoint Transmitter to Certificate No.BAS01ATEX1240X and coded Ex II 1 G EEx ia IIC T4 (-20°C ≤ Ta ≤ +60°C).

3. Permissible Interconnecting Cables



3.1 The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the hazardous area cables must not exceed the following values:-

GROUP	C μF	L mH	OR	L/R Ratio $\mu\text{H}/\Omega$
HC	0.03	3.8		39
HB	0.6	11.4		117
HA	2.1	30.4		312

These values take into consideration the $C_i = 0.052 \mu\text{F}$ for Transmet I.S. Dewpoint Transmitter.

3.2 Wiring to terminals of the safe area apparatus may be achieved by separate cables or by separate circuits within a Type A or Type B multicore cable (as defined in clause 5.3 of EN50 039:1980) subject to the following:-

- a. The circuit to be individually screened when used within a Type A multicore cable.
- b. The peak voltage of any other circuit within a Type B multicore cable must not exceed 60V.

16 Report

02(C)0473

17 Special Conditions for Safe Use

None

18 Drawings and Documents

Number	Sheet	Issue	Date	Description
Ex90197	1	4		Transmet I.S. Dewpoint Transmitter System No. 2 Diagram
Ex80389	1	1	19/05/1999	Resistor Enclosure