I A - C E R T I F I C A T E

SA Explosion Prevention CC

IN TERMS OF REGULATION 21.17.2 OF THE MINERALS ACT INCORPORATED IN THE MINE HEALTH AND SAFETY ACT) AND REGULATION 8(2) OF THE ELECTRICAL MACHINERY REGULATIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT

DME APPROVED INSPECTION AUTHORITY

20 May 2010

Alpret Control Specialists
P O Box 1368
FLORIDA
1710

IA CERTIFICATE: SAEx S/10-153
375 FIELD COMMUNICATOR

Expiry Date: 31 May 2011 (Annual Review)

DESCRIPTION: ***(According to Certificate No BVS03ATEX E347)***

The 375 Field Communicator is a hand-held, battery powered, portable intrinsically safe apparatus and used to interact with microprocessor-based measurement and actuation field devices in a process environment.

The electrical components are fixed in a plastic enclosure (surface resistance $=10^9\Omega$). For the connection of the intrinsically safe field circuits there are connectors at the top of the enclosure (F for Fieldbus applications and H for HART bus applications). These circuits can be led into areas where Category 1 equipment is required.

The apparatus is powered by a completely encapsulated battery. For charging of the battery (outside the hazardous area) with a specially designed charger (not part of this examination) there is also a connector at the side of the enclosure.

Parameters:

Connection F				
Voltage	U_o	DC	1.9	V
Current	I_o		32	µA
For the connection of an intrinsically safe Fieldbus circuit				
Voltage	U_i	DC	30	V
Current	I_i		380	mA
Power	P_i		1.3	W
Effective internal capacitance	C_i	Negligible		
Effective internal inductance	L_i	Negligible		
For the connection of an intrinsically safe circuit in accordance with FISCO model				
Effective internal capacitance	C_i	Negligible		
Effective internal inductance	L_i	Negligible		
For circuits type of protection EEx ia IIC				
Voltage	U_i	DC	17.5	V
Current	I_i		215	mA
Power	P_i		1.9	W
For circuits type of protection EEx ia IIB				
Voltage	U_i	DC	17.5	V
Current	I_i		380	mA
Power	P_i		5.3	W

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Connection H				
Voltage	U_o	DC	1.9	V
Current	I_o		32	µA
For the connection of an intrinsically safe circuit				
Voltage	U_i	DC	30	V
Current	I_i		200	mA
Power	P_i		1	W
Effective internal capacitance	C_i	Negligible		
Effective internal inductance	L_i	Negligible		
Ambient temperature range	T_a	-10°C up to +50°C		

MARKING (According to Certificate No BVS03ATEX E347):

Manufacturer	:	EMERSON Process Management
Model	:	375 Field Communicator
Ex rating	:	Ex II 2G (1GD) EEx ia IIC T4
Certificate No	:	BVS03ATEX E347

IA No	:	SAEx S/10-153

*** In addition to the original marking, the SAEx IA number and the name of the local distributor must be applied on each unit in a visible, legible and indelible manner.**

X - Special conditions of safe use:

None

Compliance: The units as described above and in Certificate No BVS03ATEX E347 is hereby certified "Explosion Protected" II 2G (1GD) EEx ia IIC T4, and is suitable for use in hazardous locations as stated below, as determined during assessments of the EXAM certificate and in accordance with the relevant requirements of equivalent SANS Standards:

- **SANS (IEC) 60079: "Electrical Apparatus for Explosive Gas Atmospheres"**
  - **Part-0 : 1999 "General Requirements";**
  - **Part-11 : 1999 "Intrinsic Safety 'i'";**
  - **Part-26 : 1999 "Equipment Group II Category 1G**
- **ARP 0108: 2007 "Regulatory Requirements for Explosion Protected Apparatus".**

As conducted to equivalent standards:

- EN50014 : 1997 +A1-A2 "General Regulations"
- EN50020 : 2002 "Intrinsic Safety 'i'"
- EN50284 : 1999 "Equipment Group II Category 1G"

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Locations	Zone 0 and 1	Surface
Hazardous Frequency		Continuous/Intermittent as could occur under normal operations
Environment	Group IIC	Propane to Hydrogen
Limiting Temperature	T4	135ºC
Ambient Temperature	-10°C to +50°C	

The use of the apparatus in hazardous locations is subject to the following provision, which shall be adhered to:

i) SANS 10086 requirements;
ii) Any relevant requirements of the MHS Act or the OHS Act;
iii) Codes of Practice enforced in terms of Regulations 21.17/2 of the Minerals Act, by the Chief Inspector of Mines;
iv) Any restrictions and conditions enforced by the Chief Inspector of Mines, Principal Inspector (Group I equipment) or Chief Inspector of Factories (Group II equipment); and
v) Any conditions mentioned in the EXAM test report.

Conditions of certification:

1. This certificate covers all units sold in South Africa from the date of this certificate to 31 May 2011.
2. The apparatus must be additionally marked in a clear, legible, visible and indelible manner with the SAEx IA number as well as the name of the local South African supplier.
3. This certificate of approval only covers the equipment as certified above and does not include any scheduled additions or variations/amendments/new issues to the certificates, made after the above date.
4. The equipment does not need to be retested when used on the conditions and with such restrictions as prescribed in Certificate No BVS03ATEX E347.
5. The EXAM certification must remain valid.
6. The requirements in the ARP 0108 (or regulations) and SANS 10108 do not change.
7. The Ex quality assurance notification for the equipment remains valid.

WA de Beer, Pr Eng
SPECIALIST ENGINEER

SA EXPLOSION PREVENTION

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