National Measurement & Regulation Office

UK/0126/0172

MI-002

EC type-examination certificate UK/0126/0172 Revision 2

issued by:

National Measurement and Regulation Office
Notified Body Number 0126

In accordance with the requirements of the Measuring Instruments (Non-Prescribed Instruments) Regulations 2006 (SI 2006/1270) which implement, in the United Kingdom, Council Directive 2004/22/EC, this certificate of EC type-examination has been issued to:

Honeywell
Honeywell House
856 Wilmslow Road
Didsbury
Manchester, M20 2HY
United Kingdom

In respect of:

Electronic Gas Conversion, Indicating and Calculating Device - MeterSuite

Characteristics:

Mechanical environment class:	M1
Electromagnetic environment class:	E2
Temperature range ambient:	5 °C to 55 °C
Humidity:	Non Condensing
Software Version	See descriptive annex

Further characteristics are provided in the Descriptive Annex of this certificate.

The National Measurement and Regulation Office holds documents appertaining to this certificate.

This revision replaces previous versions of the certificate.

Issue Date: **14 August 2015**
Valid Until: **14 October 2024**
Reference No: **TS0904/0005**

G Stones
Technical Manager - Certification Services
For and on behalf of the Chief Executive

UKAS PRODUCT CERTIFICATION
0135

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The NMRO is an Executive Agency of the Department for Business Innovation and Skills

Descriptive Annex

1 INTRODUCTION

This certificate describes an electronic indication and calculating device intended for the processing gas flow calculations and conversions as described in section 2.3 An example of the system architecture is shown in Figure 1.

2 CONSTRUCTION

2.1 Prime Parts with Metrological Function

Description	Manufacturer	Part Number	Software Version No.
C300 Controller	Honeywell	CC-PCNT01	Experion R311
ST103 Dual-Pulse and Proving Module	Swinton Technology	ST103	Rev 1.1
Series C Digital Output Module	Honeywell	CC-PDOB01	Experion R311
Series C Digital Input Module	Honeywell	CC-PDIL01	Experion R311
Series C Hart Analogue Output Module	Honeywell	CC-PAOH01	Experion R311
Series C Hart Analogue Input Module	Honeywell	CC-PAIH01	Experion R311
CF9 Controller Firewall	Honeywell	CC-PCF901	Experion R311
Digital Output 24V	Honeywell	CC-PDOB01	Experion R311
Digital Input 24V	Honeywell	CC-PDIL01	Experion R311
Fieldbus Interface	Honeywell	CC-PFB401	Experion R311
Series C Pulse Input Card	Honeywell	CC-PPIX01 and CC-TPIX11	Experion R410 only

Note: All parts listed above can be simplex or in a redundant configuration.

2.2 Software

The software version number of the MeterSuite Software is Experion R311 or R400 and is displayed in the Experion product version file.

The software version numbers defined in section 2.1 are displayed by each device on start up.

2.2.1 Alternative MeterSuite Software Version

Having an alternative software version number of Experion R410 for the MeterSuite Software. This is displayed in the product version file R410.3.

The Honeywell software descriptions defined in section 2.1 displayed by each device on start up are update to R410.3.

2.2.2 Alternative MeterSuite Software Version R430

Having an alternative software version number of Experion R430 for the MeterSuite Software. This is displayed in the product version file R430

The Honeywell software descriptions defined in section 2.1 displayed by each device on start up are updated to R430.

2.2.3 Alternative MeterSuite Software Version R431

Having an alternative software version number of Experion R431 for the MeterSuite Software. This is displayed in the product version file R431

The Honeywell software descriptions defined in section 2.1 displayed by each device on start up are updated to R431.

2.3 Programming and Conversions

2.3.1 Conversions

The calculating and indicating device can perform conversion calculations according to the following methods:

AGA 3
AGA7
AGA9
AGA10
ISO5167 DUAL
ISO5167 DUAL_JT

The system is also capable of performing the following conversions which are not covered by this approval:

AGA8 GS – Gross Method
AGA8 DL – Detail Method
ISO6976

2.3.2 Essential Characteristics

Metersuite utilises a Fiscal 64 bit Totaliser.

The Totalizer function block provides the following basic functions:

- 6 modes as follows:
  - (Mode 1): Accumulation of pulse inputs into 4 off cumulative totals with
  - individual C1 scaling factors.
  - (Mode 2): Integration of an analogue value and accumulation into 4 off
  - cumulative totals with individual C1 scaling factors.
  - (Mode 3): Accumulation of numeric inputs into a cumulative total. The
  - numeric inputs may be sourced from a flow computer
  - (Mode 4): Accumulation of stream totals derived from any of the above
  - modes into a station total.
  - (Mode 5): Flow weighted averaging of up to 12 totals in parallel.
  - (Mode 6): Run averaging of up to 12 totals in parallel.
- Handling of retrospective K factors for Mode 1.
- Period totals for up to 4 periods for Modes 1 to 4.
- Batch totals for Modes 1 to 4.
- Bad pulse counting for Mode 1, including auto reset versus a set number of
- good pulses.
- Gated pulse counting for Mode 1.
- Totalizer inhibit for Modes 1 to 4.
- Maintenance mode for Modes 1 and 2.
- Health checking and status flags.
- Ability to handle restart and rollover of external sources for Mode 1 and 3.
- Ability to drive hard-wired external totalizers for Modes 1 to 4.
- Ability to calculate flowrate for Mode 1.

The Honeywell Series C Pulse Input Module (PIM) allows for high-accuracy pulse counting of pulse streams from flow meters, and densitometers.

Features include:

- High accuracy frequency, period, pulse width measurement
- Level A pulse integrity check in accordance with ISO 6551 and API 5.5

2.3.3 Security

Various levels of passwords can protect parameter settings. All legal parameters are protected by the highest level password. This highest level password acts as the W&M password and is therefore only known by the verifying body. The calculating and indicating device comes with a default factory password, which is then changed by the verifying body at initial verification. An event log showing all alterations can be printed. The MeterSuite QVCS logging software also logs any changes in the read only event log for a minimum of 90 days.
Alarms are displayed on the hardware device panel and the attached HMI device. Alarms are also logged in special files and printed if configured that way.
Note: the MeterSuite product may also perform gas conversions, however this isn't part of this MID approval since the Gas flow rates that MeterSuite measures exceed the MID value defined.

2.4 Housings

The MeterSuite components are all mounted in a metal cabinet housing that is locked. This cabinet may also be sealed if required. In this configuration the data would be viewed by the control DCS system or other third party system receiving the data hand off from the metering system.

2.5 Display and Reports

2.5.1 MeterSuite HMI Interface

The basic MeterSuite HMI display shows for one meter however the system can be configured to custom displays for more one than meter. All the displays are Web based and conform to the industry standard ASM style.

2.5.2 Reports

The following reports can be produced automatically by MeterSuite and printed if configured that way:

- Current
- Hourly
- Daily
- Monthly
- Proof
- K-Factor Accept/Reject
- Master Meter Verification Report
- Maintenance Entry/Exit
- Stream Destination Change
- K-factor Change
- Constant report

PDF format documents are printed normally to maintain security and validity of metering data.

3 MARKING

3.1 Type Plate

The cabinet carries a type plate with the following information:

'CE' marking
Supplementary metrology marking
Notified body identification number
Serial number
Manufacturers mark or name
Certificate number

3.2 SEALING

The electronic parameters are password protected. These are set at initial setup/verification. See section 2.3.4 for MeterSuite password details. Metering cabinets are locked. This cabinet may also be sealed if required. In this configuration the data is viewed by the control DCS system or other third party system receiving the data hand-off from the metering system. Input signals to the MeterSuite event logger logs any unauthorised access to the cabinet and an alarm can be raised if configured that way.

4 SUPPORTING DOCUMENTATION

P01331 – MI002 checklist
P01331 – Software checklists
Documentation file, TRIM File TS21/0001/2

5 ILUSTRATIONS

Figure 1 Example of System Architecture

6 CERTIFICATE HISTORY

ISSUE No.	DATE	DESCRIPTION
UK/0126/0172	15 October 2014	Certificate first issued
UK/0126/0172 Revision 1	28 October 2014	Revision 2 issued. Section 2.2.2 added; Alternative MeterSuite Software Version R430.
UK/0126/0172 Revision 2	14 August 2015	Revision 3 issued. Section 2.2.3 added; Alternative MeterSuite Software Version R431.

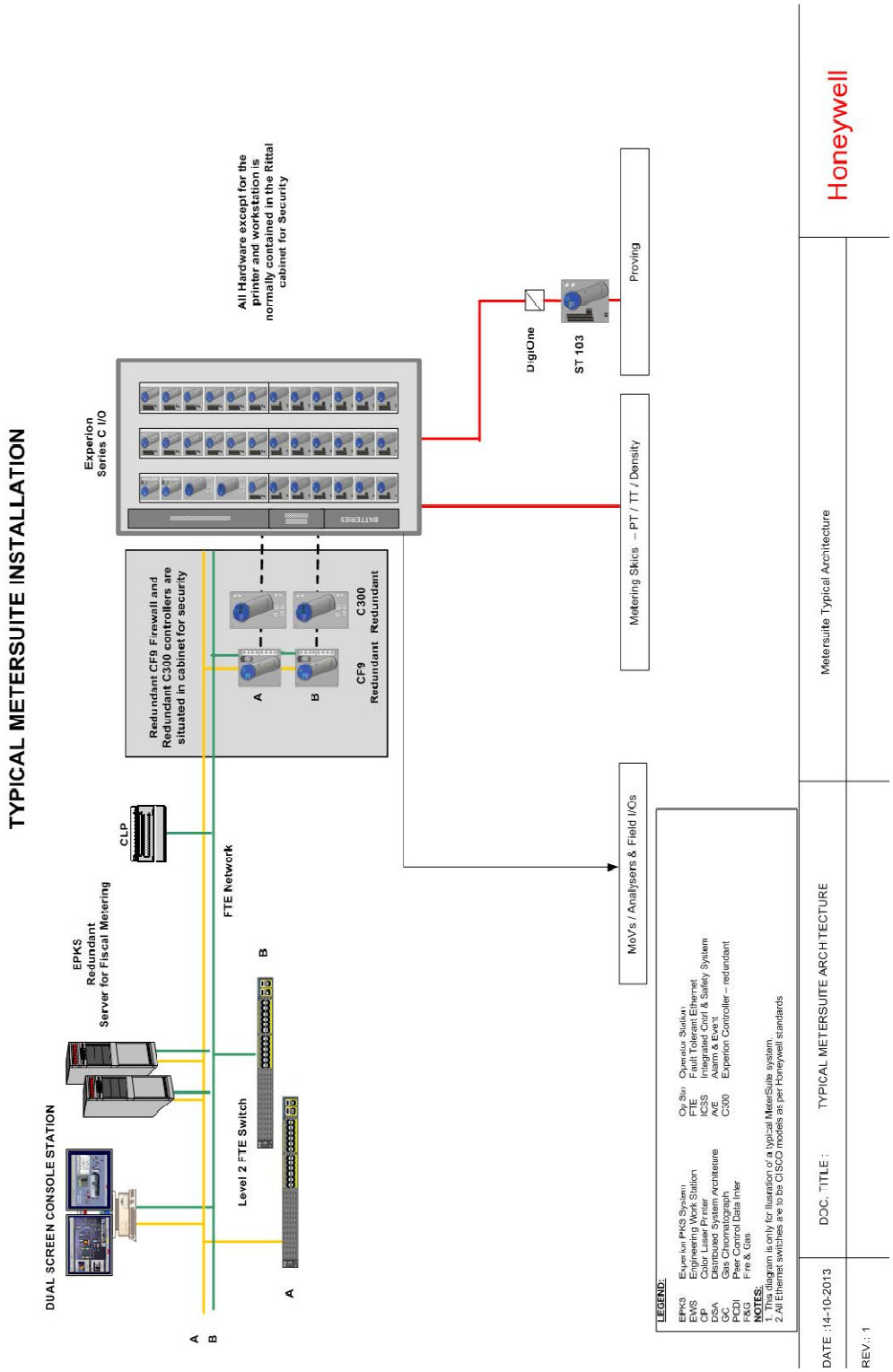

Figure 1 Example of System Architecture

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