



Certificate No. C – 00107-2

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# ITSO Certificate of Compliance

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To: Metric Group Ltd (UK)  
Metric House, Westmead Industrial Estate, Westlea,  
Swindon SN5 7AD UK

For: Metric SmartQube (version 3.0.9.1)

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This is to certify that the above product has been tested as required by ITSO for compliance against ITSO TS 1000 Specification Version: 2.1.4 Corrigendum 9.

Test Report Ref: *25082017–Metric\_Group\_SmartQube\_POST\_2.1.4\_DR*  
*– v.1.1*

**dated 25 August 2017**

This product supports the functions: ITSO POST and communicates within an ITSO environment as listed in Schedule A of this Certificate.

This product may only be used by ITSO Licensed Members complying with the conditions and constraints listed in Schedule B.

Signed for and on behalf of ITSO:

Title: CHIEF EXECUTIVE OFFICER

Dated: 26 SEPTEMBER 2017

Certificate Valid until: 25 SEPTEMBER 2024



## Schedule A

**ITSO Manufacturer Id.: 000248**

The SmartQube POST features an integrated card / ISAM reader from the same manufacturer as used in the certified Optima.BL (Certificate number C00107). The software libraries for the ITSO logic have been ported to the Metric SmartQube.

The Metric SmartQube is suitable for on vehicle use or a desk environment. The POST is mounted to a baseplate for security and connectivity to vehicle interfaces and power. The baseplate includes mounting points for secure fixing to a surface with screws/bolts etc.

**This POST communicates with CMD2, 4, 7 & 8.**

**The IPE's supported are represented in the following table:**

IPE	Create	Modify	Accept	Delete
TYP 2 – Stored Travel Rights	✓	✓	✓	✓
TYP 3 - Loyalty (Type 1)	✓	✓	✓	✓
TYP 4 - CTA Mode 1	✓	✓	✓	✓
TYP 5 - CTA Mode 2	✓	✓	✓	✓
TYP 14 – Entitlement	✓	✓	✓	✓
TYP 16 – ITSO ID and Entitlement	✓	✓	✓	✓
TYP 17 – Loyalty (Type 2)	✓	✓	✓	✓
TYP 22 – (FR1 & FR2) Area based ticket	✓	✓	✓	✓
TYP 23 – (FR1 & FR2) Journey Ticket	✓	✓	✓	✓
TYP 24 – (FR2) Journey Ticket (incl Reservations)	✓	✓	✓	✓
TYP 25 – Travel Voucher	✓	✓	✓	✓
TYP 26 – Open System Tolling	✓	✓	✓	✓
TYP 27 – Period Pass (space saving)	✓	✓	✓	✓
TYP 28 – Carnet (space saving)	✓	✓	✓	✓
TYP 29 – (FR1 & FR2) Multi Journey Ticket (space saving)	✓	✓	✓	✓
Transient Ticket Log (FR1, FR2, FR3 & FR4)	✓	✓	✓	N/A

**Action Lists and Hot Listing are supported.**



## **Schedule B**

### **List of the conditions and/or constraints applied by ITSO:**

This POST does not contain a removable memory module for data storage.  
This POST supports the Full XML tag set only.

This POST does not support the following functionality:  
Reversal of Transaction Reversal

This POST does not support the following optional functionality:  
Generation & receipt of User Defined Data Frames 0Fxx  
Creation of long (HASH-sealed) messages  
Generation of 0801 or 0807 messages

It was not possible to demonstrate Class 2 Data Frame Sequence Number rollover from 0xFFFFFFFF – however all Class 2 Data Frames are allocated unique Sequence Numbers.

### **Benchmarking**

This POST meets the full ITSO benchmark timing standards for CMD2, CMD4, CMD7 and CMD8.

	Average over tests
CMD2	244mS
CMD4	73mS
CMD7	127mS
CMD8	133mS