Automation IO Service (AIOS)

***Bluetooth*® Implementation Conformance Statement (ICS) Proforma**

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1 Identification of the implementation

1.1 Implementation Under Test (IUT) identification

Identification of the Implementation Under Test (IUT) is to be filled in to provide as much detail as possible regarding version numbers and configuration options.

An ICS contact person to respond to queries regarding information supplied in this ICS proforma is named in the Declaration of Compliance: Summary of Selected Specifications in Implementation.

1.2 Versions

Table 0: Major Versions (X.Y)

Item	Version	Reference	Status
1	AIOS v1.0	[1]	M

1.3 Transports

Table 1: Transport Requirements

Item	Transport	Reference	Status
1	Service supported over BR/EDR	[1] 1.3	C.1
2	Service supported over LE	[1] 1.3	C.1

C.1: Mandatory to support at least one of AIOS 1/1 “Service supported over BR/EDR” OR AIOS 1/2 “Service supported over LE”.

1.4 Service requirements

Table 2: Service Requirements

Item	Feature	Reference	Status
1	Automation IO Service	[1] 2	M
2	Digital characteristic	[1] 3	C.1
3	Digital characteristic: Multiple instances	[1] 3	C.8
4	Digital characteristic: Readable	[1] 3.1	O
5	Digital characteristic: Writable	[1] 3.1	O
6	Digital characteristic: Notifications	[1] 3.1.1	C.2
7	Digital characteristic: Indications	[1] 3.1.1	C.2
8	Digital characteristic: Number of Digitals Descriptor	[1] 3.1.2	C.6
9	Digital characteristic: Value Trigger Settings Descriptor	[1] 3.1.1, 3.5	O
10	Digital characteristic: Time Trigger Settings Descriptor	[1] 3.1.1, 3.5	O
11	Digital characteristic: Presentation Format Descriptor	[1] 3.1.2	C.9
12	Digital characteristic: Characteristic Extended Properties Descriptor	[1] 3.1.2	O
13	Digital characteristic: User Description Descriptor	[1] 3.1.2	O
14	Digital characteristic: Writable User Description Descriptor	[1] 3.1.2	O
15	Digital characteristic: Write Without Response	[1] 3	O
16	Analog characteristic	[1] 3	C.1
17	Analog characteristic: Multiple instances	[1] 3	C.7
18	Analog characteristic: Readable	[1] 3.2	O
19	Analog characteristic: Writable	[1] 3.2	O
20	Analog characteristic: Notifications	[1] 3.2.1	C.3

Item	Feature	Reference	Status
21	Analog characteristic: Indications	[1] 3.2.1	C.3
22	Analog characteristic: Value Trigger Settings Descriptor	[1] 3.2.1, 3.5	O
23	Analog characteristic: Time Trigger Settings Descriptor	[1] 3.2.1, 3.5	O
24	Analog characteristic: Presentation Format Descriptor	[1] 3.2.2	C.5
25	Analog characteristic: Characteristic Extended Properties Descriptor	[1] 3.2.2	O
26	Analog characteristic: User Description Descriptor	[1] 3.2.2	O
27	Analog characteristic: Writable User Description Descriptor	[1] 3.2.2	O
28	Analog characteristic: Valid Range Descriptor	[1] 3.2.2	O
29	Analog characteristic: Write Without Response	[1] 3	O
30	Aggregate characteristic	[1] 3	O
31	Aggregate characteristic: Notifications	[1] 3.3.1	C.4
32	Aggregate characteristic: Indications	[1] 3.3.1	C.4
33	Aggregate characteristic: Triggered by Trigger Settings Descriptor in the included Digital or Analog	[1] 3.3.1, 3.5	O

C.1: Mandatory to support at least one of AIOS 2/2 “Digital characteristic” OR AIOS 2/16 “Analog characteristic”.

C.2: Optional to support one and only one of AIOS 2/6 “Digital characteristic: Notifications” OR AIOS 2/7 “Digital characteristic: Indications” IF AIOS 2/2 “Digital characteristic” otherwise Excluded IF AIOS 2/31 “Aggregate characteristic: Notifications” OR AIOS 2/32 “Aggregate characteristic: Indications”, otherwise Optional.

C.3: Optional to support one and only one of AIOS 2/20 “Analog characteristic: Notifications” OR AIOS 2/21 “Analog characteristic: Indications” IF AIOS 2/16 “Analog characteristic”, otherwise Excluded IF AIOS 2/31 “Aggregate characteristic: Notifications” OR AIOS 2/32 “Aggregate characteristic: Indications”, otherwise Optional.

C.4: Excluded IF AIOS 2/6 “Digital characteristic: Notifications” OR AIOS 2/7 “Digital characteristic: Indications” OR AIOS 2/20 “Analog characteristic: Notifications” OR AIOS 2/21 “Analog characteristic: Indications”, otherwise Optional.

C.5: Mandatory IF AIOS 2/17 “Analog characteristic: Multiple instances”, otherwise Optional.

C.6: Mandatory IF AIOS 2/2 “Digital characteristic”, otherwise Excluded.

C.7: Optional IF AIOS 2/16 “Analog characteristic”, otherwise Excluded.

C.8: Optional IF AIOS 2/2 “Digital characteristic”, otherwise Excluded.

C.9: Mandatory IF AIOS 2/3 “Digital characteristic: Multiple instances”, otherwise Optional.

1.5 GATT requirements

Table 3: GATT Requirements

Item	Feature	Reference	Status	Inter-Layer Dependency
1	No longer used	N/A	N/A	N/A
2	GATT Server over BR/EDR	[1] 1.4	C.7	[2] GATT 1a/4
3	GATT Server over LE	[1] 1.4	C.8	[2] GATT 1a/3
4	Write Characteristic Value	[1] 1.4	C.1	[2] GATT 4/14

Item	Feature	Reference	Status	Inter-Layer Dependency
5	Write without Response	[1] 1.4	C.2	[2] GATT 4/12
6	Notifications	[1] 1.4	C.3	[2] GATT 4/17
7	Indications	[1] 1.4	C.4	[2] GATT 4/18
8	Write Characteristic Descriptors	[1] 1.4	C.6	[2] GATT 4/21
9	Read Characteristic Descriptors	[1] 1.4	C.5	[2] GATT 4/19

C.1: Mandatory IF AIOS 2/5 “Digital characteristic: Writable” OR AIOS 2/19 “Analog characteristic: Writable” OR AIOS 2/3 “Digital characteristic: Multiple instances” OR AIOS 2/17 “Analog characteristic: Multiple instances”, otherwise Optional.

C.2: Mandatory IF AIOS 2/15 “Digital characteristic: Write Without Response” OR AIOS 2/29 “Analog characteristic: Write Without Response”, otherwise Optional.

C.3: Mandatory IF AIOS 2/6 “Digital characteristic: Notifications” OR AIOS 2/20 “Analog characteristic: Notifications” OR AIOS 2/31 “Aggregate characteristic: Notifications”, otherwise Optional.

C.4: Mandatory IF AIOS 2/7 “Digital characteristic: Indications” OR AIOS 2/21 “Analog characteristic: Indications” OR AIOS 2/32 “Aggregate characteristic: Indications”, otherwise Optional.

C.5: Mandatory IF AIOS 2/2 “Digital characteristic” OR AIOS 2/20 “Analog characteristic: Notifications” OR AIOS 2/21 “Analog characteristic: Indications” OR AIOS 2/22 “Analog characteristic: Value Trigger Settings Descriptor” OR AIOS 2/23 “Analog characteristic: Time Trigger Settings Descriptor” OR AIOS 2/24 “Analog characteristic: Presentation Format Descriptor” OR AIOS 2/25 “Analog characteristic: Characteristic Extended Properties Descriptor” OR AIOS 2/26 “Analog characteristic: User Description Descriptor” OR AIOS 2/28 “Analog characteristic: Valid Range Descriptor” OR AIOS 2/31 “Aggregate characteristic: Notifications” OR AIOS 2/32 “Aggregate characteristic: Indications”, otherwise Optional.

C.6: Mandatory IF AIOS 2/6 “Digital characteristic: Notifications” OR AIOS 2/7 “Digital characteristic: Indications” OR AIOS 2/9 “Digital characteristic: Value Trigger Settings Descriptor” OR AIOS 2/10 “Digital characteristic: Time Trigger Settings Descriptor” OR AIOS 2/14 “Digital characteristic: Writable User Description Descriptor” OR AIOS 2/20 “Analog characteristic: Notifications” OR AIOS 2/21 “Analog characteristic: Indications” OR AIOS 2/22 “Analog characteristic: Value Trigger Settings Descriptor” OR AIOS 2/23 “Analog characteristic: Time Trigger Settings Descriptor” OR AIOS 2/27 “Analog characteristic: Writable User Description Descriptor” OR AIOS 2/31 “Aggregate characteristic: Notifications” OR AIOS 2/32 “Aggregate characteristic: Indications”, otherwise not defined.

C.7: Mandatory IF AIOS 1/1 “Service supported over BR/EDR”, otherwise not defined.

C.8: Mandatory IF AIOS 1/2 “Service supported over LE”, otherwise not defined.

1.6 SDP requirements

Table 4: SDP Requirements

Prerequisite: AIOS 1/1 “Service supported over BR/EDR”

Item	Feature	Reference	Status
1	SDP record present for AIOS	[1] 4	M

2 References

[1] Automation IO Service Specification, Version 1.0

[2] ICS Proforma for Generic Attribute Profile (GATT)

3 Revision history and acknowledgments

Revision History

Publication Number	Revision Number	Date	Comments
	1.0.0r0	2015-04-21	Initial Draft
0	1.0.0	2015-07-21	Prepared for publication.
	1.0.0 edition 2r00	2018-11-20	Editorial changes only. Template updated. Revision History and contributors moved to the end of the document.
	1.0.0 edition 2	2019-11-11	Updated copyright page and confidentiality markings to support new Documentation Marking Requirements, performed minor formatting updates, and accepted all tracked changes to prepare for edition 2 publication.
	p1r00–r01	2022-07-20 – 2022-10-13	TSE 19175 (rating 1): Updated to align with current ICS conventions/template. Removed Support columns and added Inter-Layer Dependency columns. Revised document numbering convention, setting last release publication of 1.0.0 as p0; added Publication Number column to Revision History.
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