Intended use:

This document aims to inform on compatibility with Sylvac *Bluetooth*® technology[1] enabled products.

To the attention of:

Developers who want to integrate Sylvac instruments with *Bluetooth*® technology to their custom apps or software solutions.

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[1] "The *Bluetooth*® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by Sylvac is under license. Other trademarks and trade names are those of their respective owners."

Instrument discovering

Connectable device identification

Sylvac software will connect devices advertising with a Bluetooth Device Name as stated below

Bluetooth Device Name	Use	Example
SYxxx	Sylvac products	SY289 for S_Dial WORK
MTYxxx	OEM or any customer compatible instrument	MTYmyname (max 20 char including MTY)

Scan/Advertisement

Sylvac software don't use active scan (any data within scan response packet will not be processed). Sylvac instruments will advertise their Bluetooth Device Name as stated below

Profile	Config mode (1st connection)	User mode (reconnection)
SIMPLE (no pairing)	SYxxx	SYxxx
PAIR, former "standard"/"iOS"	SYxxx	SY
HID	Family name followed by "HID"	Family name followed by "HID"

Bluetooth® Profiles

Sylvac instruments can be switched between three *Bluetooth*® profiles

Newer Profiles (FIR 4.xx)	Former Profiles Equivalence
SIMPLE (default)	-
PAIR	Standard (default), iOS
HID	-

Compatibility/use

SIMPLE profile can be used with any OS.
PAIR profile can be used with any OS (except Android 4.3-5.0.2).
HID profile can be used with any OS supporting HID over GATT (Bluetooth SIG adopted profile).

Default configuration is loaded at instrument start-up (SIMPLE profile).
The profile can be switched by command or instrument menu (menu BTCFG).
Default profile can be restored by performing a factory reset (command “FAC RST[cr]”).
Default profile is not restored by performing a Bluetooth reset (menu BT/Reset or command “BT RST[cr]”) neither a user/admin reset (Buttons MODE+SET long or command “RST[cr]”).
With former profiles, default profile was restored by factory reset and also user/admin reset.
Pairing is lost at any profile switching.

Instruments integrating the new Bluetooth profiles have a firmware revision **4.**xx and higher.

Software overview

Software/Application	Master type	Compatibility
Sylcom	BLED112 (USB dongle)	Since version 1.3.1
Vmux	BLED112 (USB dongle)	Since version 1.43
D300S V2	BLED112 (USB dongle)	Since version 2.42
Sylvac demo apps	Built-in (unknown)	iOS since v1.3, Android since v1.34
Sylvac Anywhere apps	Built-in (unknown)	Since v1.0.9
Customer SW/apps	Unknown	See annex for procedure differences

Commands

Command	Parameters	Description
CFG BT	SIMPLE	Restart with SIMPLE profile (no pairing)
CFG BT	PAIR	Restart with PAIR profile (with pairing)
CFG BT	HID	Restart with HID profile (Keyboard emulation, with pairing)
CFG BT	?	Profile configuration status
CFG BT	D01	Former “standard” profile… (no more implemented in firmware V4.xx)
CFG BT	D02	Former “iOS” profile… (no more implemented in firmware V4.xx)

Annex

Connection procedure

Profile	Software procedure (master)	Instrument procedure (slave)
simple (no pairing)	Connect Discover services Try to activate properties (enable indications/notifications) Ready…	Connect (General Discoverable mode, Non-Bondable mode)
pair / former “iOS”	Connect Discover services Try to activate properties (enable indications/notifications) Error “Insufficient Encryption (0x040F)” Enable encryption Try to activate properties (retry) Ready…	Bond (Limited Discoverable mode, Bondable mode)
former “standard”	Connect Discover services Try to activate properties (enable indications/notifications) Encryption initiated by slave, wait for bond success event (because master is set in bondable mode) Try to activate properties (resume, end) Ready…	Bond (Limited Discoverable mode, Bondable mode) … Initiate bond security request (10s for encryption by master)

Reconnection procedure

Profile	Software procedure (master)	Instrument procedure (slave)
simple (no pairing)	Connect Discover services Try to activate properties (enable indications/notifications) Ready…	Connect (General Discoverable mode, Non-Bondable mode)
pair / former “iOS”	Connect Discover services (not necessary) Try to activate properties (not necessary) Enable encryption (may be auto by protocol) Ready…	Connect (Non-Discoverable mode)
former “standard”	Connect Discover services (not necessary) Try to activate properties (not necessary) Ready…	Connect (Non-Discoverable mode)