

SBE 37 MicroCAT Change Notice – June 2018

Sea-Bird has redesigned the SBE 37 product line, including the 37-SM, SMP, SMP-ODO, IM, IMP, IMP-ODO, SI, SIP, and SIP-IDO. All SBE 37s with firmware version v5.0.0 and above now have redesigned hardware and firmware, with similar physical dimensions and commands among all MicroCAT versions. The details of these changes are documented below.

Hardware

The physical dimensions and required hardware of all SBE 37s have been consolidated. **New SBE 37s will utilize the same hardware kit and battery pack.**

Batteries

All new MicroCATs use the yellow-top battery pack (PN 801863) already installed in all pumped SBE 37s. The red-top battery pack previously used with unpumped versions of the 37-SM and 37-IM is now obsolete and incompatible with all new SBE 37s.

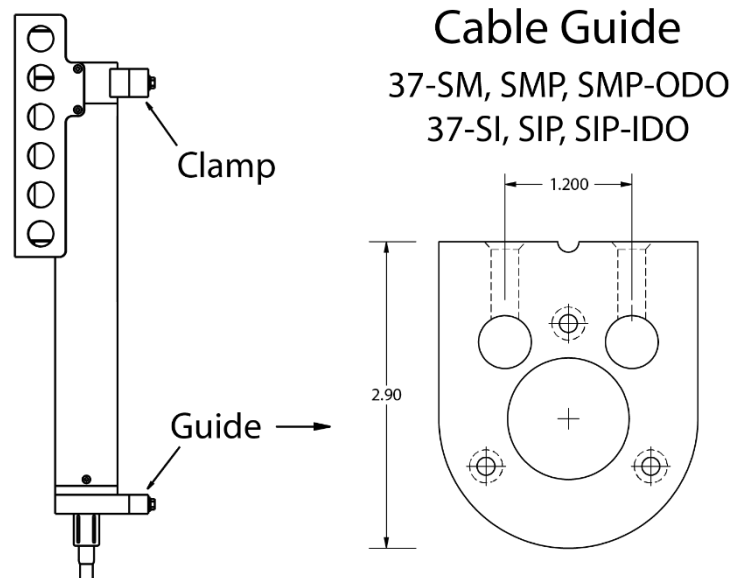
Spare Hardware Kit

The new SBE 37 Universal Spare Hardware Kit (PN 60077) now contains hardware for all SBE 37 types to ensure that users have the necessary spares. Not all parts contained within the spare part kit will pertain to a specific SBE 37 (eg. hardware specific to the SBE 37-IMP-ODO will not pertain to the SBE 37-SI, but is still contained within the kit provided with the 37-SI).

Mount Blocks

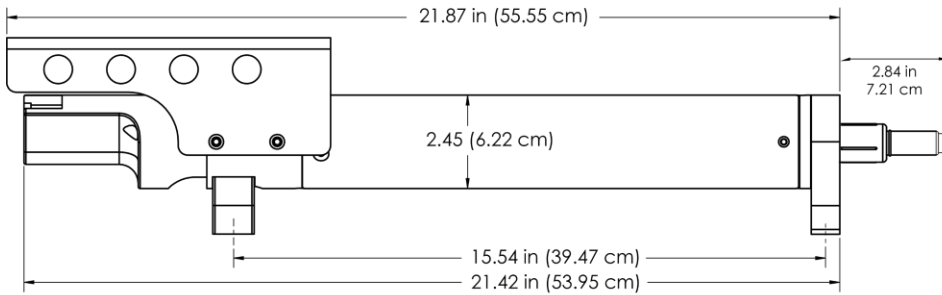
Unpumped SBE 37s (SM, SI) now use the same cable guide (bracket that attaches to the connector endcap) as the pumped 37s. **Cable guides from the old 37-SM and 37-SI will not fit the new SBE 37-SM and 37-SI.** Cable guides from the old 37-SMP, SMP-ODO, SIP, and SIP-IDO will now fit all of the new 37s.

The original cable clamps (bracket that attaches to the sensor endcap) from the old SBE 37s will still fit all of the new SBE 37s.



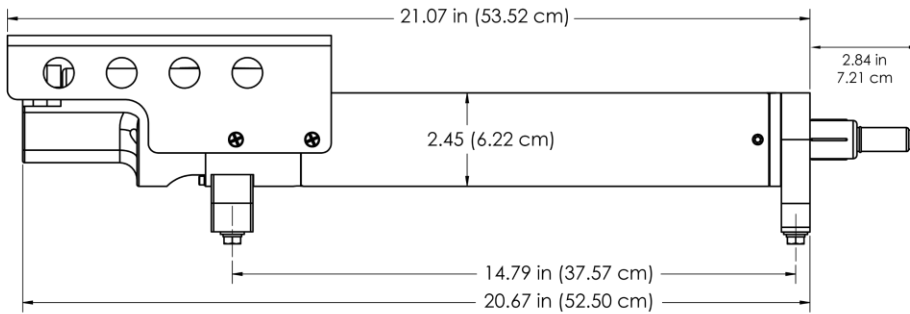
Physical Dimensions

The physical dimensions now consist of four types: pumped, unpumped, pumped without batteries (37-SIP, SIP-IDO), and unpumped without batteries (37-SI only). The 37-SM and 37-IM will share the same physical dimensions, while the 37-SMP, 37-SMP-ODO, 37-IMP, 37-IMP-ODO will all share the same physical dimensions.

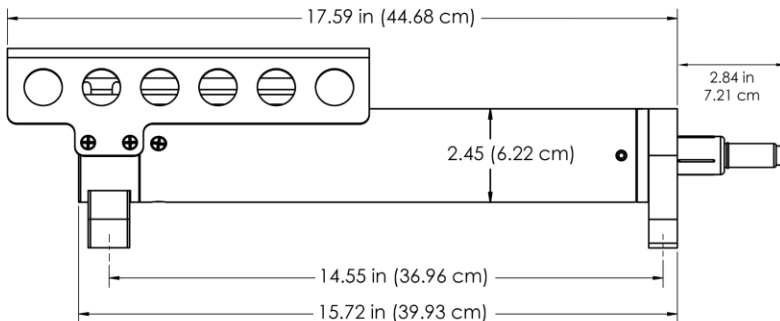


New Pumped SBE 37

37-SMP 37-SMP-ODO
37-IMP 37-IMP-ODO

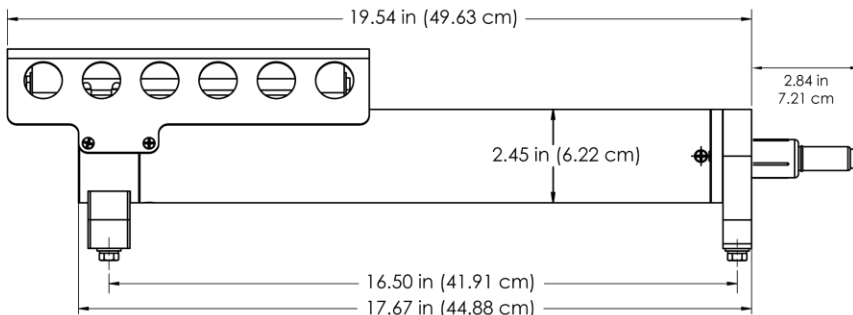


Old Pumped SBE 37

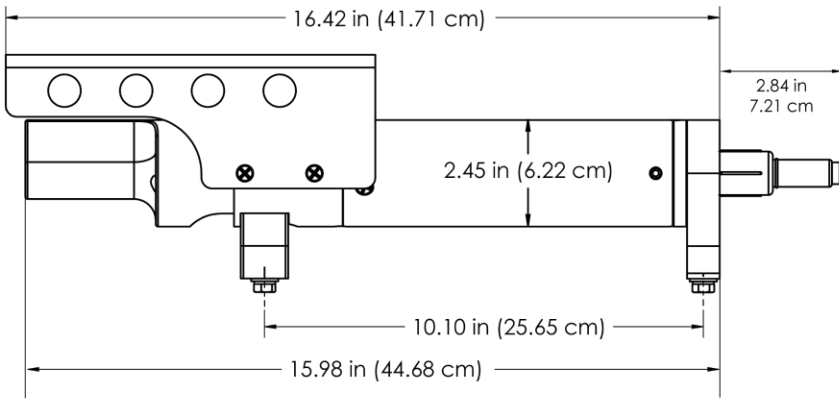


New Non-Pumped SBE 37

37-SM
37-IM

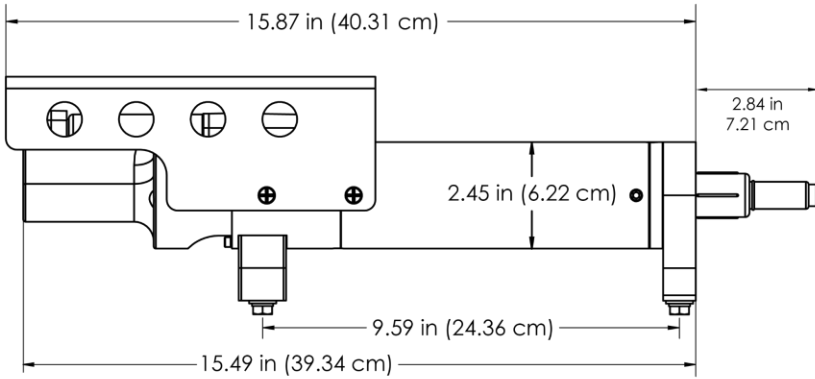


Old Non-Pumped SBE 37

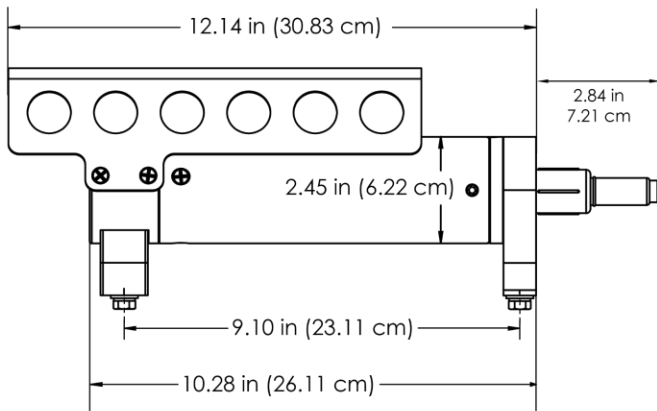


**New Pumped SBE 37
(No Batteries)**

37-SIP-IDO 37-SIP

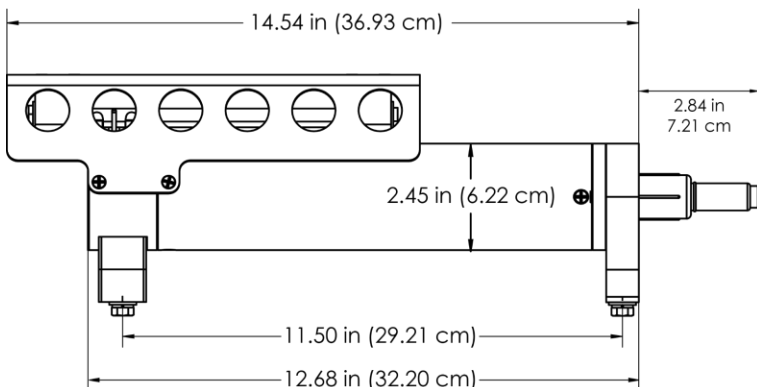


**Old Pumped SBE 37
(No Batteries)**



**New Non-Pumped SBE 37
(No Batteries)**

37-SI



**Old Pumped SBE 37
(No Batteries)**

Output Format Compatibility

New output formats are listed below with the corresponding “old” format for comparison. Whitespace is shown as a · symbol to better demonstrate the data string.

NOTE: 37-IM and IMPs will no longer have the ability to report raw data in raw hex format (previously outputformat=0, for diagnostic use at Sea-Bird).

37-IM, IMP, and IMP-ODO

outputformat=0: Raw Data in Decimal Format

New Format 02,212641,·2782.613,·19·Apr·2018,·05:41:04,·3
Old Format 03,524276,·2886.656,·26·Nov·2012,·09:01:34,·250 (outputformat=3)

outputformat=1: Converted Data in Decimal Format

New Format 02,16126,·24.3044,·0.0005,·19·Apr·2018,·05:54:54,·29
Old Format 03,09999,·8.5796,·0.15269,·26·Nov·2012,·09:01:44,·250 (outputformat=1)

outputformat=2: Converted Data in XML Format

New Format 02,<?xml-version="1.0"?><datapacket><hdr><mfg>Sea-Bird</mfg><model>37IM</model><id>255</id><sn>03716126</sn></hdr><data><t1>24.3027</t1><c1>0.0005</c1><smpl>257</smpl><dt>2018-04-19T05:57:47</dt></data></datapacket>
Old Format 03,<?xml-version="1.0"?><datapacket><hdr><mfg>Sea-Bird</mfg><model>37IM</model><sn>03709999</sn></hdr><data><t1>·8.5796</t1><c1>·0.15269</c1><p1>·531.316</p1><smpl>1126</smpl><navg>250</navg><dt>2012-11-26T09:01:44</dt></data></datapacket> (outputformat=4)

outputformat=4: Converted Data in Decimal, Alternate Format

New Format 02,16126,·0.0006,·24.3612,·06:02:05,·04-19-2018,·258,·1
Old Format 03,09999,·1.5269,·8.5796,·09:01:44,·11-26-2012,·1126,·250 (outputformat=2, compatiblemode=y)

outputformat=5: Converted Data in Decimal, Compatible Format

New Format 02,16126,·0.0006,·24.3625,·06:05:03,·19-04-2018,·259,·1
Old Format 03,09999,·1.5269,·8.5796,·09:01:44,·26-11-2012,·1126,·250 (outputformat=2, compatiblemode=n)

37-SM, SMP, SMP-ODO, SI, SIP, SIP-IDO

outputformat=0: Raw Data in Decimal Format

New Format 212368,·2742.453,·525784,·2799,·07·Jan·2000,·04:45:09
Old Format 524276,·2886.656,·785053,·2706,·20·Aug·2012,·09:01:34

outputformat=1: Converted Data in Decimal Format

New Format 24.8339,·0.97795,·9.262,·07·Jan·2000,·04:51:39
Old Format 8.5796,·0.15269,·531.316,·20·Aug·2012,·09:01:44

outputformat=2: Converted Data in XML Format

New Format <?xml-version="1.0"?><datapacket><hdr><mfg>Sea-Bird</mfg><model>37SM-RS232</model><sn>03700000</sn></hdr><data><t1>24.8200</t1><c1>0.97795</c1><p1>·9.261</p1><dt>2000-01-07T04:51:49</dt></data></datapacket>
Old Format <?xml-version="1.0"?><datapacket><hdr><mfg>Sea-Bird</mfg><model>37SM</model><sn>03709999</sn></hdr><data><t1>·8.5796</t1><c1>·0.15269</c1><p1>·531.316</p1><dt>2012-08-20T09:01:44</dt></data></datapacket>

Important SBE 37-IM, IMP, IMP-ODO Command Changes

The 37-IM, IMP, and IMP-ODO lines are eliminating or replacing commands that may be relevant to existing polled sampling routines. Important commands and their replacement are documented below. Refer to the instrument manuals for a complete list of new commands.

Obsolete Command	Replacement Command	Function
ResumeLogging (37-IM, 37-IMP)	GDATA automatically resumes logging.	Simultaneously command all MicroCATs to start logging.
StayOn (37-IM, 37-IMP)	Send carriage return (Enter key) to the 37 resets the 2-minute countdown.	Command all MicroCATs to reset counting for 2-minute timeout,
#iiTSSTx (37-IM, 37-IMP)	#iiTSS	Take sample, store in FLASH memory, and transmit in the current output format.
#iiCompatibleMode=Y/N (37-IM, 37-IMP)	New output Formats replace #iiCompatibleMode=Y : <ul style="list-style-type: none"> outputformat=4 Matches old 37-IM and 37-IMP outputformat=2 and compatiblemode=y) outputformat=5 Matches old 37-IM and 37-IMP outputformat=2 and compatiblemode=n) 	x=Y: Output data in format compatible with 37-IM/IMP with firmware < 3.0 Outputs date as mm-dd-yyyy instead of dd-mm-yyyy.
#iiTxHexTime (37-IM, 37-IMP)	No replacement – hex output format has been removed.	x=Y: If #iiOutputFormat=0, output date and time with hex data

- The unpumped 37-IMs are gaining functionality similar to the IMP and IMP-ODO:
 - They now respond to “Group” commands, as used by the 37-IMP and 37-IMP-ODO.
 - They can now change the units for temperature (**#iiSetTempUnits=**) and conductivity (**#iiSetCondUnits=**) when outputting converted data (outputformat=1, 2, 4, or 5)
- The 37-SM, SMP, SMP-ODO, SI, SIP, and SIP-IDO do no lose any important commands. Consult the instrument manual (firmware v5.0 firmware and above) for a complete list of commands.