



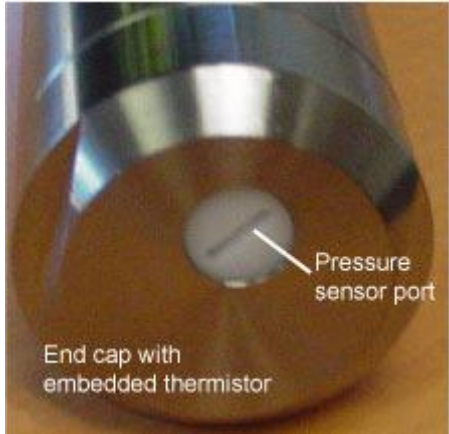
SBE 39plus Configurations

Housing	Pressure Sensor/Range	Connector	Thermistor	Communications
1 – 600 m (plastic)	0 – none	0 – None	0 – External	0 – USB & (for connectors '1' & '2') RS-232
3 – 10,500 m (titanium)	1 – 20 m strain gauge	1 – XSG	1 – Internal	
	2 – 100 m strain gauge	2 – MCBH		
	3 – 350 m strain gauge			
	4 – 600 m strain gauge			
	5 – 1000 m strain gauge			
	6 – 2000 m strain gauge			
	7 – 3500 m strain gauge			
	8 – 7000 m strain gauge			

Example: 39P.13210 is an SBE 39plus with 600 m housing, 350 m strain gauge pressure sensor, MCBH connector, internal thermistor, and RS-232 & USB communications. See table below for description of each selection:

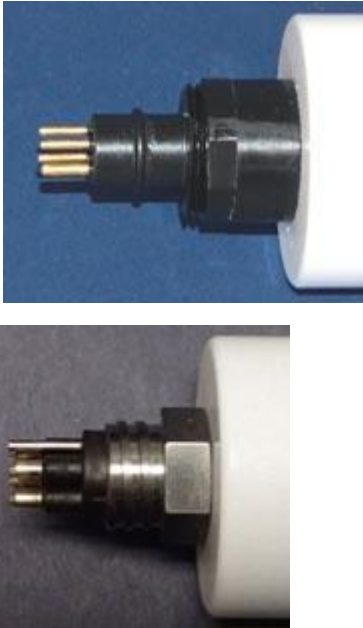

PART #	DESCRIPTION	NOTES

39plus	TEMPERATURE (pressure optional) RECORDER - 64 MB memory, USB interface, lithium battery (non-hazardous), USB upload cable for internal I/O (PN 172557), Seasoftware, and complete documentation (internal USB I/O cable may be deleted for credit).	
SBE 39plus Housing (depth) Selections — MUST SELECT ONE		
39P.1xxx0	600 m plastic housing	
39P.2xxx0	10,500 m titanium housing	
SBE 39plus Pressure Sensor Range (depth) Selections — MUST SELECT ONE		


39P.x0xx0	No pressure sensor	 <p>Pressure sensor is installed in end cap, & is not field replaceable / swappable. While highest pressure rating gives you most flexibility in using 39plus, it is at expense of accuracy & resolution. It is advantageous to use lowest range pressure sensor compatible with your intended maximum operating depth, because accuracy & resolution are proportional to pressure sensor's full scale range. For example, comparing 2000 & 7000 m sensors:</p> <ul style="list-style-type: none"> • 2000 m sensor: initial accuracy = 2 m ($= 0.1\% * 2000$ m), resolution = 0.04 m ($= 0.002\% * 2000$ m) • 7000 m sensor: initial accuracy = 7 m ($= 0.1\% * 7000$ m), resolution = 0.14 m ($= 0.002\% * 7000$ m)
39P.x1xx0	20 m strain gauge pressure sensor	
39P.x2xx0	100 m strain gauge pressure sensor	
39P.x3xx0	350 m strain gauge pressure sensor	
39P.x4xx0	600 m strain gauge pressure sensor	
39P.x5xx0	1000 m strain gauge pressure sensor	
39P.x6xx0	2000 m strain gauge pressure sensor	
39P.x7xx0	3500 m strain gauge pressure sensor	
39P.x8xx0	7000 m strain gauge pressure sensor	

SBE 39plus Connector Selections — MUST SELECT ONE


39P.xx0x0	No external connector (communication only via internal USB connector)	<p>All options include cable 172557 (USB cable for communications with internal USB connector).</p> <ul style="list-style-type: none"> 39P.xx0x0 — For 39plus without external connector, instrument setup & data upload require opening housing by unscrewing end cap; communication is via internal USB connector. 39P.xx1x0 & 39P.xx2x0 — 39plus with external connector allows instrument setup & data upload without opening housing. Communication via internal USB connector provides fast upload of large data sets.
39P.xx1x0	XSG connector (order external I/O cable separately)	<p>Wet-pluggable connectors may be mated in wet conditions. Their pins do not need to be dried before mating. By design, water on connector pins is forced out as connector is mated. However, they must not be mated or un-mated while submerged.</p> <p>Wet-pluggable connectors have a non-conducting guide pin to assist pin alignment & require less force to mate, making them easier to mate reliably under dark or cold conditions, compared to XSG/AG connectors. Like XSG/AG connectors, wet-pluggables need proper lubrication & require care during use to avoid trapping water in sockets.</p>

39P.xx2x0	Wet-pluggable (MCBH) connector (order external I/O cable separately)	 <p>XSG connector on left, Wet-pluggable (MCBH) connector on right</p>
SBE 39plus Thermistor Configuration Selections— MUST SELECT ONE		
39P.xxx00	External thermistor, in pressure protected sheath (~0.5 second response time)	 <p>Internal thermistor provides more rugged sensor, but slower response. External thermistor provides faster response for when fast sampling required.</p>
39P.xxx10	Internal thermistor, imbedded in titanium end cap (~25 second response time)	

SBE 39plus Mooring Clamp Options (2 clamps & titanium housing should be used if mooring subjected to high dynamic motion. Specify clamp to match O.D. of mooring wire jacket)

50377. I	One plastic mounting clamp for 1/4 in. or 6 mm diameter mooring wire	 <p>See document 67162 & drawing 41396. 'I' designation indicates that clamp is to be installed on instrument at factory.</p> <p>SBE 39plus shown with 10,500 m titanium housing, internal I/O connector, & external thermistor, as well as 1 mounting clamp.</p> <p>Clamp Size Note: Mooring wire is typically specified by wire size, not by outer diameter (O.D.) of the mooring wire jacket. Verify the wire jacket O.D. before selecting the clamp size. The clamp size must be less than or equal to the wire jacket O.D. but larger than the wire diameter. For example, Mooring System Inc.'s specifications for 3x19 wire rope (in 2016) are as follows:</p>
50378. I	One plastic mounting clamp for 5/16 in. or 8 mm diameter mooring wire	
50379. I	One plastic mounting clamp for 3/8 in. or 10 mm diameter mooring wire	
50380. I	One plastic mounting clamp for 1/2 in. or 12 mm diameter mooring wire	
50381. I	One plastic mounting clamp for 5/8 in. or 16 mm diameter mooring wire	


50423. I	One plastic mounting clamp for 3/4 in. or 19 mm diameter mooring wire	Wire Diameter	Jacket Diameter	Recommended Sea-Bird Clamp
50459. I	One plastic mounting clamp for 18 mm diameter mooring wire	3/16 inch (5.0 mm)	0.255 inch (6.5 mm)	1/4 inch
50534. I	One plastic mounting clamp for 20 mm diameter mooring wire	1/4 inch (6.5 mm)	0.330 inch (8.4 mm)	5/16 inch
		5/16 inch (8.0 mm)	0.392 inch (9.9 mm)	3/8 inch
		3/8 inch (9.5 mm)	0.453 inch (11.5 mm)	10 mm (0.394 inch)
		7/16 inch (11.1 mm)	0.5 inch (12.7 mm)	1/2 inch
		For mounting on a rope, verify the rope outer diameter, and select a clamp smaller		

		than the rope O.D. to account for the rope compressibility (for example, for 5/16 inch rope, select a 1/4 inch clamp; a 5/16 inch clamp will be too large).
SBE 39plus Net Fender Options — Requires one Mooring Clamp		
801554.001 I	Net Fender for 1/4 in. diameter mooring wire	 <p>'I' designation indicates that net fender is to be installed on instrument at factory.</p> <p>Conical ends of net fender are designed to shed fishing lines or nets.</p> <p>Net fender retains 1/2 of mooring clamp. All hardware is captured within, guaranteeing no loss of nuts or bolts during deployment.</p> <p>Attach 39plus to mooring cable in 2 steps:</p>
801554.003 I	Net Fender for 5/16 in. or 8 mm diameter mooring wire	
801554.004 I	Net Fender for 3/8 in. diameter mooring wire	
801554.007 I	Net Fender for 1/2 in. diameter mooring wire	
801554.008 I	Net Fender for 5/8 in. or 16 mm diameter mooring wire	
801554.002 I	Net Fender for 6 mm diameter mooring wire	

801554.005 I	Net Fender for 10 mm diameter mooring wire	<div>1. Place net fender & attached clamp against mooring line. Push 39plus into clamp guides.</div> <div>2. Holding 39plus & net fender with 1 hand, tighten clamp bolts with a driver in free hand.</div>
801554.006 I	Net Fender for 12 mm diameter mooring wire	
SBE 39plus Spares & Accessories		
50504	Lithium batteries (spare), package of four 3.6V AA cells (Saft LS 14500)	Four cells are included with standard shipment; this is spare. Shipping restrictions apply for shipping spare lithium batteries; see SBE 39plus manual for details. Click here to buy Saft LS 14500 from Amazon.
801376	Data/Power interface cable, RMG-4FS to DB-9S & 9V battery snap, 2.4 m (DN 32604)	Order 801376 or 801355 for 39plus with XSG external connector.
801385	Data/Power interface cable, RMG-4FS to DB-9S & red/black twisted wire leads, 2.4 m (DN 32277)	

172557	USB Type A to Mini-B cable, 1.8 m	For connection to internal USB connector. Included with standard shipment; this is spare.
801836	37-IM/IMP/IMP-ODO/IMP-IDO and 39plus Internal Data I/O cable, 0.3 m (DN 33406)	For uploading data quickly using internal RS-232 connector.
801263	Data/Power interface cable, Wet-Pluggable, MCIL-4FS to DB-9S & 9V battery snap, 2.4 m (DN 32490)	Order 801263 or 801206 for 39plus with wet-pluggable MCBH external connector.
801206	Data/Power interface cable, Wet-Pluggable, MCIL-4FS to DB-9S & red/black twisted wire leads, 2.4 m (DN 32366)	
20200	USB to Serial Port Adapter, FTDI UC232R-10 (connects computers with USB ports to RS-232 instruments)	Many newer PCs & laptop computers have USB port(s) instead of RS-232 serial port(s). USB serial adapter plugs into USB port, & allows a serial device to be connected through adapter. Multi-port adapters are available from other companies; see Application Note 68 .

60058	Desiccant capsules, bottle of 5 (for use in 39plus with external connector)	Because of space considerations, 39plus with no external connector uses a different desiccant than 39plus with external connector. Replace desiccant each time you open 39plus housing (for example, to replace battery or to connect to internal USB connector). See Application Note 71 for information on desiccant.
60039	Desiccant Packs (Sorb-it, 1 gram), can of 25 (for use in 39plus with no external connector)	
60069	SBE 39plus spares kit for SBE 39plus with external connector (document 67227)	<p>O-rings & desiccant; Included with standard shipment. Note that desiccant must be replaced each time you open housing, whether to connect to internal I/O connector (if applicable) or to replace lithium cells.</p> <ul style="list-style-type: none"> • 60069 is for SBE 39plus with external connector • 60070 is for SBE 39plus with no external connector
60070	SBE 39plus spares kit for SBE 39plus with no external connector (document 67228)	

<p>31633</p>	<p>Storm shipping case (iM2600) — holds up to 4 SBE 39plus with external connector or 6 SBE 39plus with internal connector (does not hold SBE 39s with net fenders)</p>	 <p>Storm shipping case with custom foam inserts holds up to 4 SBE 39plus with external connector or 6 SBE 39plus with internal connector (shown at right).</p> <ul style="list-style-type: none"> • Injection molded case with HPX resin plastic body, automatic pressure equalization valve, hinged push-button latches, fold-down padded handle, & O-ring seal. Meets airline luggage regulations. • Inner dimensions: 20 x 14 x 7.7 inches (51 x 36 x 20 cm). • Outer dimensions: 21.2 x 16 x 8.3 inches (54 x 41 x 21 cm). <p>SBE 39plus in net fender does not fit in Storm shipping case.</p>
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