

Temperature data loggers of EBI 12 series

General technical specifications for EBI 12 T series

Operating temperature: logger	-90 °C ... +150 °C (-130 °F ... +302 °F)*
Operating temperature: radio operation	-30 °C ... +150 °C (-22 °F ... +302 °F)
Temperature accuracy	±1.5 °C (-200 °C ... -85 °C)* ±0.5 °C (-85 °C ... -40 °C)* ±0.2 °C (-40 °C ... 0 °C)* ±0.1 °C (0 °C ... +120 °C)* ±0.05 °C (+120 °C ... +140 °C)* ± 0.1 °C (+140 °C ... +150 °C)* ± 0.5 °C (+150 °C ... +250 °C)* ± 0.8 °C (+250 °C ... +400 °C)*
Time accuracy	< 5 sec (24 h)
Temperature resolution	0.01 °C
Sensor	Pt 1000, Class A
Interval	250 ms ... 24 hours.*
Measurement mode	<ul style="list-style-type: none"> • Endless measurement • Start / stop measurement • Measure upon start temperature • Start immediately until end of memory
Storage temperature	0 °C ... +125 °C
Maximum operating pressure	Temperature logger 10 bar (abs), 4 bar (abs) with flexible cable probes
Minimum operating pressure	Logger with flexible cable probe 20 mbar (abs)
Battery	Lithium cell, 3.6 V, user replaceable
Dimensions (Ø x H)	48 mm x 24 mm**
Weight	Approximately 110 g **
Housing material	316 L Stainless steel / PEEK
Protection class	IP68
Certificate	Factory calibration certificate

* Deviating specifications can be found in the product descriptions.

** Dimensions and weight may be different depending on the type.

Product lines



Red line

Blue line

Short Description	<ul style="list-style-type: none"> • Temperature data logger with external probe less than 2 mm diameter • Data logger with additional units • Special process logger 	<ul style="list-style-type: none"> • All other temperature data logger
Radio mode	Loggers can transfer data during the measurement process	Not possible
Total memory capacity	100,000 values	27,000 values

EBI 12-T100 Temperature Data Logger with internal temperature sensor



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Application samples

- For process monitoring during convenience food production
- For routine control in bedpan washers
- For temperature mappings
- To measure in raw material storage



Technical Data

Measurement range (Use in EX Area)	EBI 12-T100: -90 °C ... +150 °C (-130 °F ... +302 °F) EBI 12-T100-EX: -40 °C ... +85 °C (-40 °F ... +185 °F)
Data memory	100,000 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C and +134 °C
Radio mode	EBI 12-T100: Not possible EBI 12-T100-EX: Selectable

- 1 internal temperature sensor
- Particularly robust

Type	Description	Part No.
EBI 12-T100	Internal temperature sensor	1340-6600
EBI 12-T100-EX	Internal temperature sensor	1340-6600-EX

EBI 12-T101 Temperature Data Logger with internal temperature sensor



Application samples

- For use in dry ice and in cryogenic
- In bedpan washers and washing machines



Technical Data

Measurement range	-90 °C ... +105 °C (-130 °F ... +221 °F)
Accuracy	± 0.5 °C (-90 °C ... -40 °C) ± 0.3 °C (-40 °C ... +105 °C)
Sampling rate	1 s ... 24 h
Data memory	27,000 measurement values
Factory calibration certificate	-20 °C, 0 °C and +60 °C

- 1 internal temperature sensor
- Particularly robust

Type	Description	Part No.
EBI 12-T101	Internal temperature sensor	1340-6601

EBI 12-T21X Temperature Data Logger rigid metal probe



Application sample

- For process monitoring during convenience food production

Technical Data

Measurement range	-40 °C ... +150 °C (-40 °F ... +302 °F)
Accuracy	± 0.1 °C (0 °C ... +150 °C) ± 0.3 °C (-40 °C ... 0 °C)
Sampling rate	1 s ... 24 h
Data memory	27,000 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C and +134 °C



- 1 external temperature probe, Ø 3 mm
- Radial pointed

Type	Description	Part No.
EBI 12-T210	Needle length = 50 mm	1340-6602
EBI 12-T211	Needle length = 75 mm	1340-6603

EBI 12-T23X Deep Temperature Data Logger rigid metal probe



Application sample

- Ideal for use in canning for pasteurization control

Technical Data

Measurement range	-40 °C ... +150 °C (-40 °F ... +302 °F)
Accuracy	± 0.1 °C (0 °C ... +150 °C) ± 0.3 °C (-40 °C ... 0 °C)
Sampling rate	1 s ... 24 h
Data memory	27,000 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C and +134 °C



- Axial pointed, M5 Thread
- 1 external temperature probe, Ø 3 mm
- Various needle lengths available

Type	Description	Part No.
EBI 12-T230	Needle length = 50 mm	1340-6606
EBI 12-T231	Needle length = 75 mm	1340-6607
EBI 12-T232	Needle length = 100 mm	1340-6608
EBI 12-T233	Needle length = 150 mm	1340-6609

EBI 12-T285 Temperature Data Logger *bendable, blunt metal probe*



Application sample

- For retort maintenance and process monitoring

Technical Data

Measurement range	-40 °C ... +200 °C (-40 °F ... +392 °F)
Accuracy	± 0.2 °C (0 °C ... +150 °C) ± 0.3 °C (-40 °C... 0 °C) ± 0.5 °C > 150 °C
Sampling rate	1 s ... 24 h
Data memory	100,000 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C and +134 °C

- 1 external temperature probe, Ø 3 mm
- Axial, blunt

Type	Description	Part No.
EBI 12-T285	Needle length = 2,000 mm	1340-6685

EBI 12-T43X Temperature Data Logger *rigid metal probes*



Application sample

- Ideal for use in canning for pasteurization control

Technical Data

Measurement range	-40 °C ... +150 °C (-40 °F ... +302 °F)
Accuracy	± 0.1 °C (0 °C ... +150 °C) ± 0.3 °C (-40 °C... 0 °C)
Sampling rate	1 s ... 24 h
Data memory	2 x 13,500 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C and +134 °C

- Axial pointed, M5 Thread
- 2 external temperature probes, Ø 3 mm
- Various needle lengths available

Type	Description	Part No.
EBI 12-T430	Needle length = 50 mm	1340-6614
EBI 12-T431	Needle length = 75 mm	1340-6615
EBI 12-T432	Needle length = 100 mm	1340-6616
EBI 12-T433	Needle length = 150 mm	1340-6617

EBI 12-T46X Bottle Logger rigid metal probe



Application sample

- Ideal for use in bottles

Technical Data

Measurement range	-40 °C ... +150 °C (-40 °F ... +302 °F)
Accuracy	± 0.3 °C (-40 °C ... +150 °C)
Sampling rate	1 s ... 24 h
Data memory	2 x 13,500 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C and +121 °C

- Axial, blunt, M10 thread
- 1 external temperature probe, Ø 6 mm
- 1 external temperature probe, Ø 3 mm
- Various needle lengths available

Type	Description	Part No.
EBI 12-T461	Needle length = 135 mm	1340-6623
EBI 12-T462	Needle length = 190 mm	1340-6624
EBI 12-T463	Needle length = 245 mm	1340-6625
EBI 12-T464	Needle length = 270 mm	1340-6626
EBI 12-T465	Needle length = 300 mm	1340-6627

EBI 12-T22X Temperature Data Logger bendable metal probe



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Application samples

- Measurement in drain of sterilizers
- In oven (protected by Thermal-Isolation-Box)
- EtO sterilization (ATEX type)

Technical Data

Measurement range (Use in EX Area)	EBI 12-T220: -200 °C ... +200 °C (-328 °F ... +392 °F)
	EBI 12-T220-EX: -40 °C ... +85 °C (-40 °F ... +185 °F)
	EBI 12-T221: -200 °C ... +400 °C (-328 °F ... +752 °F)
Data memory	100,000 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C, +134 °C and +250 °C if the probe length is 500 mm



- 1 external temperature probe, Ø 1.5 mm
- Radial arranged

Type	Description	Part No.
EBI 12-T220	Needle length = 250 mm	1340-6604
EBI 12-T220-EX	Needle Length = 250 mm	1340-6604-EX
EBI 12-T221	Needle length = 500 mm	1340-6605

EBI 12-T24X Temperature Data Logger *bendable metal probe*



Application samples

- In washer disinfectors
- H₂O₂ sterilization

Technical Data

Measurement range	-200 °C ... +200 °C (-328 °F ... +392 °F)
Data memory	100,000 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C and +134 °C

- 1 external temperature probe, Ø 1,5 mm
- Axial arranged

Type	Description	Part No.
EBI 12-T240	Needle Length = 250 mm	1340-6611
EBI 12-T241	Needle Length = 500 mm	1340-6612

EBI 12-T421 Temperature Data Logger *bendable metal probes*



Application samples

- In oven (protected by Thermal-Isolation-Box)
- In washer disinfectors

Technical Data

Measurement range	-200 °C ... +400 °C (-328 °F ... +752 °F)
Data memory	2 x 50,000 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C, +134 °C and +250 °C

- 2 external temperature probes, Ø 1.5 mm
- Radial arranged

Type	Description	Part No.
EBI 12-T421	Needle Length = 500 mm	1340-6630

EBI 12-T441 Temperature Data Logger *bendable metal probes*



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Application samples

- In washer disinfectors
- H₂O₂ sterilization
- EtO sterilization (ATEX type)

Technical Data

Measurement range (Use in EX Area)	EBI 12-T441: -200 °C ... +200 °C (-328 °F ... +392 °F) EBI 12-T441-EX: -40 °C ... +85 °C (-40 °F ... +185 °F)
Data memory	2 x 50,000 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C and +134 °C

- 2 external temperature probes, Ø 1.5 mm
- Axial arranged

Type	Description	Part No.
EBI 12-T441	Needle Length = 500 mm	1340-6629
EBI 12-T441-EX	Needle Length = 500 mm	1340-6629-EX

EBI 12-T490 Temperature Data Logger *flexible cable probes*



Application sample

- Steam sterilizer



Technical Data

Measurement range	-20 °C ... +150 °C (-4 °F ... +302 °F)
Data memory	2 x 50,000 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C and +134 °C

- 2 external temperature probes, Ø 1.2 mm
- Radial arranged

Type	Description	Part No.
EBI 12-T490	Cable Length = 600 mm	1340-6634

EBI 12-T690 Temperature Data Logger flexible cable probes



Application sample

- Steam sterilizer



Technical Data

Measurement range	-20 °C ... +150 °C (-4 °F ... +302 °F)
Data memory	4 x 25,000 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C and +134 °C

- 4 external temperature probes, Ø 1.2 mm
- Radial arranged

Type	Description	Part No.
EBI 12-T690	Cable Length = 600 mm	1340-6635

EBI 12-T47X Temperature Data Logger flexible cable probes



Application sample

- Steam sterilizer



Technical Data

Measurement range	-20 °C ... +150 °C (-4 °F ... +302 °F)
Data memory	2 x 50,000 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C and +134 °C

- 2 external temperature probes, Ø 1.2 mm
- Axial arranged

Type	Description	Part No.
EBI 12-T470	Cable Length = 600 mm	1340-6640
EBI 12-T471	Cable Length = 1,200 mm	1340-6644

EBI 12-T671 Temperature Data Logger flexible cable probes



Application sample

- Steam sterilizer

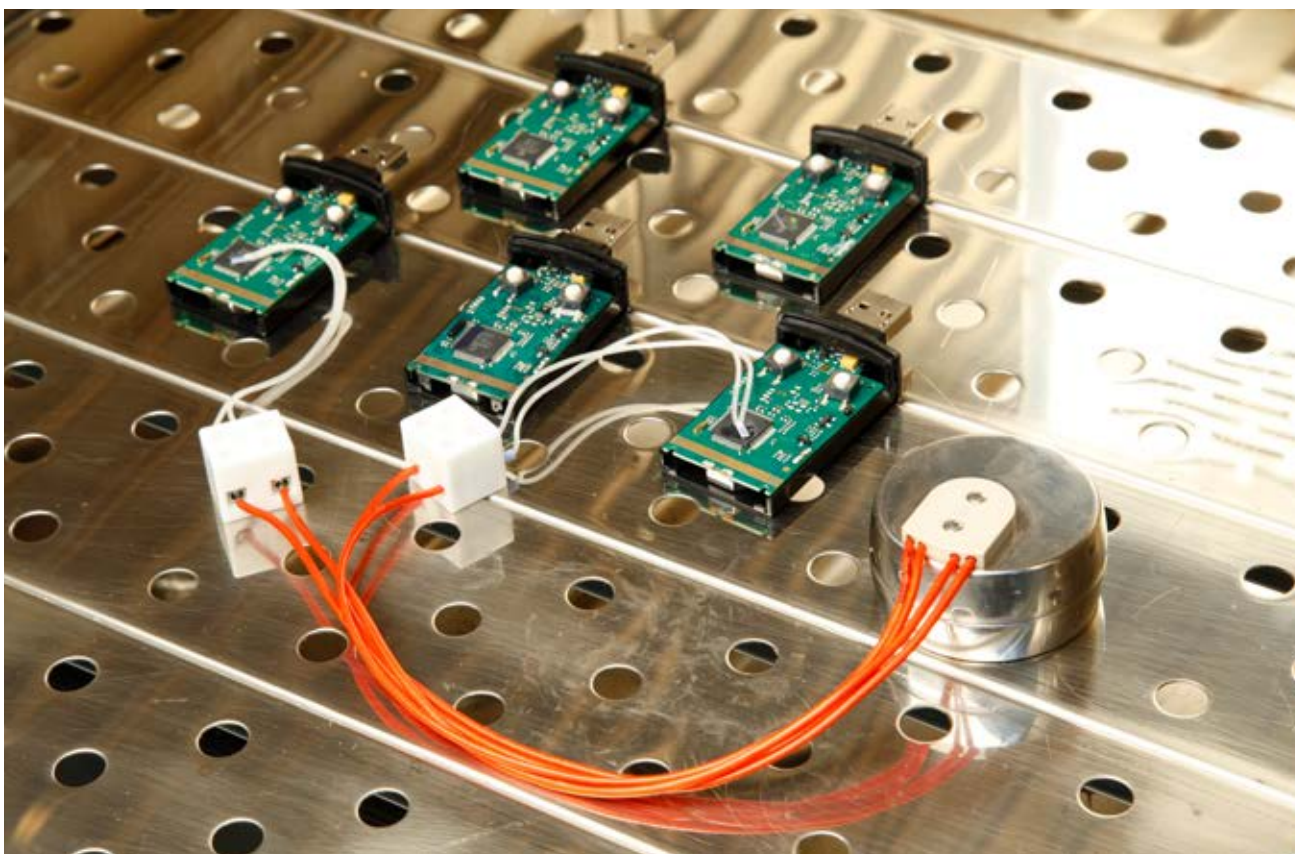


Technical Data

Measurement range	-20 °C ... +150 °C (-4 °F ... +302 °F)
Data memory	4 x 25,000 measurement values
Factory calibration certificate	-20 °C, 0 °C, +60 °C and +134 °C

- 4 external temperature probes, Ø 1.2 mm
- Axial arranged

Type	Description	Part No.
EBI 12-T671	Cable Length = 1,200 mm	1340-6645



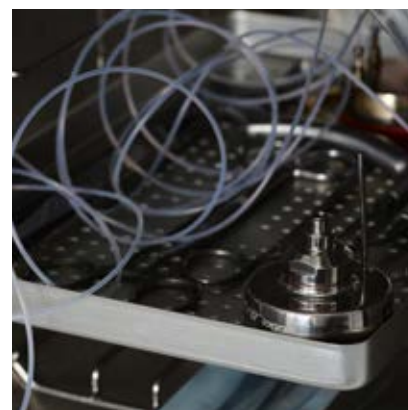
Fast measurement accurately placed during production or storage

Temperature / Pressure Data Loggers EBI 12 series

General technical specifications: valid for all EBI 12-TP data loggers

Operating temperature: pressure logger	0 °C ... +150 °C (+32 °F ... +302 °F)
Accuracy: temperature	±0.1 °C (0 °C ... +120 °C) ±0.05 °C (+120 °C ... +140 °C) ±0.1 °C (+140 °C ... +150 °C)
Accuracy: pressure	±10 mbar (50 mbar ... 150 mbar) ±10 mbar (2,050 mbar ... 2,250 mbar) ±10 mbar (3,000 mbar ... 3,250 mbar) ±15 mbar (for the remaining measurement range)
Resolution: temperature	0.01 °C
Resolution: pressure	1 mbar
Data memory	Max. 100,000 measurements (total)
Sensor: temperature	Pt 1000, Class A
Sensor: pressure	Piezoresistive pressure sensor (temperature compensated)
Sampling rate	250 ms ... 24 h
Measurement mode	<ul style="list-style-type: none"> • Endless measurement • Measure upon start time • Start immediately until end of memory • Start / Stop measurement
Storage temperature	0 °C ... +125 °C (+32 °F ... +257 °F)
Maximum operating pressure	Pressure logger: 7 bar (abs), 4 bar (abs) with flexible cable probes
Minimum operating pressure	Logger with flexible cable probe: 20 mbar (abs)
Time accuracy (24h)	< 5 sec
Battery	Lithium cell, 3.6 V, user replaceable
Dimensions (Ø x H)	48 mm x 32 mm*
Weight	Approximately 120 g *
Housing material	316 L Stainless steel / PEEK
Protection class	IP68
Certificate	Factory calibration certificate

* Dimensions and weight may be different depending on the type.



EBI 12-TP222 Temperature / Pressure Data Logger bendable metal probe and Luer-Lock-Connection



Application samples

- Washer disinfectors
- Sterilizer

Technical Data

Measurement range: temperature	0 °C ... +150 °C (+32 °F ... +302 °F)
Measurement range: pressure	1 ... 4,000 mbar
Data memory	2 x 33,400 measurement values
Factory calibration certificate	0 °C, +60 °C and +134 °C 100 mbar and 3100 mbar at +25 °C and 3100 mbar at +134 °C

- 1 external temperature probe, axial, bendable, Ø 1.5 mm
- 1 internal pressure sensor with Luer-Lock-Connection

Type	Description	Part No.
EBI 12-TP222	Needle Length = 500 mm, Luer-Lock-Connection	1340-6653

EBI 12-TP226 Temperature / Pressure Data Logger bendable metal probe



Application samples

- Washer disinfectors
- Sterilizer

Technical Data

Measurement range: temperature	0 °C ... +150 °C (+32 °F ... +302 °F)
Measurement range: pressure	1 ... 4,000 mbar
Data memory	2 x 33,400 measurement values
Factory calibration certificate	0 °C, +60 °C and +134 °C 100 mbar and 3100 mbar at +25 °C and 3100 mbar at +134 °C

- 1 external temperature probe, axial, bendable, Ø 1.5 mm
- 1 internal pressure sensor
- Small size

Type	Description	Part No.
EBI 12-TP226	Needle Length = 250 mm	1340-6657

EBI 12-TP231 Temperature / Pressure Data Logger rigid metal probe and Luer-Lock-Connection



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Application samples

- Washer disinfectors
- Sterilizer
- EtO sterilizer (ATEX type)

Technical Data

Measurement range: temperature (Use in EX Area)	EBI 12-TP231: 0 °C ... +150 °C (+32 °F ... +302 °F) EBI 12-TP231-EX: 0 °C ... +85 °C (+32 °F ... +185 °F)
Measurement range: pressure	1 ... 4,000 mbar
Data memory	2 x 33,400 measurement values
Factory calibration certificate	0 °C, +60 °C and +134 °C 100 mbar and 3100 mbar at +25 °C and 3100 mbar at +134 °C

- 1 external temperature probe, axial, Ø 1.95 mm
- 1 internal pressure sensor with Luer-Lock-Connection

Type	Description	Part No.
EBI 12-TP231	Needle Length = 40 mm	1340-6655
EBI 12-TP231-EX	Needle Length = 40 mm	1340-6655-EX



EBI 12-TP234 Temperature / Pressure Data Logger tube connection and M 10x1 internal thread



Application sample

- Drainages

Technical Data

Measurement range: temperature	0 °C ... +150 °C (+32 °F ... +302 °F)
Measurement range: pressure	1 ... 4,000 mbar
Data memory	2 x 33,400 measurement values
Factory calibration certificate	0 °C, +60 °C and +134 °C 100 mbar and 3100 mbar at +25 °C and 3100 mbar at +134 °C

- 1 external temperature probe, axial, Ø 1.95 mm
- 1 internal pressure sensor with tube connection

Type	Description	Part No.
EBI 12-TP234	Needle Length = 40 mm	1340-6652

EBI 12-TP322 Temperature / Pressure Data Logger bendable metal probes with Luer-Lock-Connection



Application samples

- Washer disinfectors
- Sterilizer

Technical Data

Measurement range: temperature	0 °C ... +150 °C (+32 °F ... +302 °F)
Measurement range: pressure	1 ... 4,000 mbar
Data memory	3 x 25,000 measurement values
Factory calibration certificate	0 °C, +60 °C and +134 °C 100 mbar and 3100 mbar at +25 °C and 3100 mbar at +134 °C

- 2 external temperature probes, axial, bendable, Ø 1.5 mm
- 1 internal pressure sensor with Luer-Lock-Connection

Type	Description	Part No.
EBI 12-TP322	Luer-Lock-Connection	1340-6664

EBI 12-TP422 Temperature / Pressure Data Logger bendable metal probes with Luer-Lock-Connection



Application samples

- Washer disinfectors
- Sterilizer

Technical Data

Measurement range: temperature	0 °C ... +150 °C (+32 °F ... +302 °F)
Measurement range: pressure	1 ... 4,000 mbar
Data memory	4 x 20,000 measurement values
Factory calibration certificate	0 °C, +60 °C and +134 °C 100 mbar and 3100 mbar at +25 °C and 3100 mbar at +134 °C

- 3 external temperature probes, axial, bendable, Ø 1.5 mm
- 1 internal pressure sensor with Luer-Lock-Connection

Type	Description	Part No.
EBI 12-TP422	Needle Length = 500 mm, Luer-Lock-Connection	1340-6662

EBI 12-TP45X Temperature / Pressure Data Logger flexible cable probes with Luer-Lock-Connection



Application sample

- Sterilization

Technical Data

Measurement range: temperature	0 °C ... +150 °C (+32 °F ... +302 °F)
Measurement range: pressure	1 ... 4,000 mbar
Data memory	4 x 20,000 measurement values
Factory calibration certificate	0 °C, +60 °C and +134 °C 100 mbar and 3100 mbar at +25 °C and 3100 mbar at +134 °C

- 3 external temperature probes, axial, flexible, Ø 1.2 mm
- 1 internal pressure sensor with Luer-Lock-Connection

Type	Description	Part No.
EBI 12-TP451	Cable Length = 600 mm, Luer-Lock-Connection	1340-6643
EBI 12-TP453	Cable Length = 1,200 mm, Luer-Lock-Connection	1340-6647

EBI 12-TP460 Temperature / Pressure Data Logger flexible cable probes



Application sample

- In limited spaces e.g. in containers

Technical Data

Measurement range: temperature	0 °C ... +150 °C (+32 °F ... +302 °F)
Measurement range: pressure	1 ... 4,000 mbar
Data memory	4 x 20,000 measurement values
Factory calibration certificate	0 °C, +60 °C and +134 °C 100 mbar and 3100 mbar at +25 °C and 3100 mbar at +134 °C

- 3 external temperature probes, radial, Ø 1.2 mm
- 1 internal pressure sensor

Type	Description	Part No.
EBI 12-TP460	Cable Length = 600 mm	1340-6648

EBI 12-TPX9X Precision Pressure Logger high precision pressure measurement down to 0.1 mbar



In the process of H₂O₂ Sterilizers a very precise pressure measurement is necessary. The system works with pressures down to 1 mbar abs. A highly accurate pressure data logger is necessary caused by the very low pressure nearly by vacuum.



Not for use in steam sterilizer



Technical Data

Measurement range: temperature	0 °C ... +85 °C (+32 °F ... +185 °F)
Measurement range: pressure	0.1 ... 1,050 mbar (0.1 ... 788 Torr)
Accuracy: temperature	±0.1 °C
Accuracy: pressure	± 0.25 mbar (0.1 mbar ... 50 mbar) ± 5% of measured value (50 mbar ... 100 mbar) ± 1% FS (100 mbar ... 1,050 mbar)
Resolution: temperature	0.01 °C
Resolution: pressure	0.1 mbar
Data memory	TP190: 50,000 measurement values TP290: 2 x 33,400 measurement values
Sensor: temperature	Pt 1000
Sensor: pressure	Piezoresistive pressure sensor
Measurement cycle	250 ms ... 24 hours
Measurement mode	<ul style="list-style-type: none"> • Endless measurement immediately • Start / Stop measurement • Measure immediately until end of memory
Operating temperature	0 °C ... +85 °C
Max. operating pressure	2,000 mbar (abs.)
Battery	Lithium cell, 3.6 V, user replaceable
Dimensions (D x H)	48 mm x 35 mm
Housing material	316 L Stainless steel / PEEK
Protection class	IP68
Factory calibration certificate	0 °C and +60 °C ≤0.5 mbar, 50 mbar at +25 °C and ≤0.5 mbar, 10 mbar, 50 mbar at +60 °C

- 1 internal or 1 external temperature sensor, Ø 1.95 mm
- 1 internal pressure sensor

Type	Description	Part No.
EBI 12-TP190	Internal temp. sensor	1340-6665
EBI 12-TP290	Needle Length = 40 mm	1340-6666

EBI 12-TC230 Temperature / Conductivity Data Logger Conductivity measurement



In processes like e.g. washer disinfectors, the measurement of conductivity in the last dishwater is required. This is reasonably done in the running process without any interruption.



- 1 external temperature probe
- 1 external conductivity probe

Technical Data

Measurement range: temperature	0 °C ... +125 °C (+32 °F ... +257 °F)
Measurement range: conductivity	1 µS/cm ... 2,000 µS/cm
Accuracy: temperature	± 0.2 °C
Accuracy: conductivity	± 0.5 µS (1 µS/cm .. 20 µS/cm) ± 1.0 µS (20.1 µS/cm .. 100 µS/cm) ± 2.5% of measured value (100.1µS/cm ... 1500µS/cm) ± 5% from the measurement range (remaining range)
Resolution: temperature	0.01 °C
Resolution: conductivity	0.1 µS/cm
Data memory	2 x 50,000 measurement values
Sensor: temperature	Pt 1000
Sensor: conductivity	Conductivity electrode
Measurement mode	<ul style="list-style-type: none"> • Endless measurement immediately • Start / Stop measurement • Measure immediately until end of memory
Measuring interval	• 1s ... 24h
Storage temperature	0 °C ... +125 °C (+32 °F ... +257 °F)
Max. operating pressure (burst pressure)	2.5 bar (abs.)
Battery	Lithium cell, user replaceable
Dimensions (D x H)	48 mm x 130 mm
Housing material	316 L Stainless steel / PEEK
Protection class	IP68
Factory calibration certificate	0 °C, +60 °C and +121 °C 5 µS/cm, 100 µS/cm, 1413 µS/cm at +25 °C
Radio mode	Not possible

Type	Description	Part No.
EBI 12-TC230	Temperature/Conductivity	1340-6667

EBI 12-T480 Temperature Data Logger with strip to connect external probes



Sometimes it is necessary to record data with independent probes.

Technical Data

Measurement range	-200 °C ... +400 °C (-328 °F ... +732 °F)
Data memory	2 x 50,000 measurement values
Measurement mode	<ul style="list-style-type: none"> • Endless measurement immediately • Start / Stop measurement • Measure immediately until end of memory
Operating temperature	-90 °C ... +150 °C (-130 °F ... +302 °F)
Battery	Lithium cell, 3.6 V, user replaceable
Dimensions (D x H)	46 mm x 35 mm
Housing material	316 L Stainless steel / PEEK
Protection class	IP52
Factory calibration certificate	-200 °C, -50 °C, 0 °C, +60 °C, +134 °C, +250 °C and +400 °C

- Strip for 2 external Pt 1000 probes

Type	Description	Part No.
EBI 12-T480	Temperature Data Logger with terminal strip	1340-6633
PT 1000 Probe	10 cm long wires	1341-1810

EBI 12-TH100-EX Temperature / Humidity Data Logger usable with EtO



Application samples

- EtO Sterilization
- H₂O₂ Sterilization (with special filter)



- 1 external temperature sensor (Pt 1000)
- 1 external humidity sensor (capacitive)
- Combined sensor replaceable

Technical Data

Measurement range: Temperature (Use in EX area)	-20 °C ... +85 °C (-4 °F ... +185 °F)
Measurement range: Humidity	0 % rH ... 100 % rH
Accuracy: temperature	± 0.1 °C
Accuracy: humidity	± 2 % rH, non-condensing at +25 °C
Resolution: temperature	0.01 °C
Resolution: humidity	0.1 % rH
Data memory	2 x 50,000 measurement values
Measurement channels: temperature	external (Pt 1000)
Measurement channels: humidity	(capacitive); combined sensor replaceable
Measurement mode	<ul style="list-style-type: none"> • Endless measurement immediately • Start / Stop measurement • Measure immediately until end of memory
Measuring interval	1s ... 24h
Storage temperature	-20 °C ... +70 °C
Max. operating pressure	2 bar (abs.)
Battery	Lithium cell, 3.6 V, user replaceable
Dimensions (D x H)	48 mm x 70 mm
Housing material	316 L Stainless steel / PEEK
Protection class	IP52
Factory calibration certificate	0 °C and +60 °C 32.8 % rF, 52.9 % rF and 75.4 % rF at +25 °C

Type	Description	Part No.
EBI 12-TH100-EX	Temperature/Humidity	1340-6671-EX
AL 175 TH probe	Replacement probe for EBI12-TH100-EX	1341-6145



Electronic measuring system for measuring steam penetration in the steam sterilizer

EBI 16 **Alternative Bowie&Dick-Test**
accordance to DIN EN 285 / ISO 17665 / ISO 11140-4



The EBI 16 forms together with the evaluation software Winlog.med an easy to use and reliable electronic measurement system.



This allows implementing a comprehensive routine control of steam sterilizers by means of the alternative Bowie&Dick-Test according to EN 285 / DIN EN ISO 17665. In addition to checking the penetration of steam, the relevant sterilization parameters are also checked.

A vacuum test can also be carried out with this device.

The EBI 16 is designed to ensure the use of 1,000 cycles or 3 years without calibration or service.

Technical Data

Measurement range temperature	0 °C ... +150 °C (+32 °F ... +302 °F)
pressure	1 mbar ... 4,000 mbar
Accuracy temperature	± 0.1 °C
pressure	± 15 mbar
Resolution temperature	0.01 °C
pressure	1 mbar
Data memory	6,750 measurement values
Sampling rate	1 sec
Measurement mode	Start / Stop measurement
Sensor: temperature	Pt 1000
Sensor: pressure	Piezoresistive pressure sensor
Operating temperature	0 °C ... +150 °C
Storage temperature	0 °C ... +125 °C
Start temperature	+15 °C ... +35 °C
Max. operating pressure	7 bar (abs.)
Protection class	IP68
Battery	Lithium cell (3,6 V), replaceable
Battery lifetime	Up to 2 Years
Dimension (D x H)	90 mm x 150 mm
Housing material	316 L Stainless steel / PEEK
Weight	Approx. 500 g (incl. battery)
Calibration	Factory calibration certificate

Accordance to EN ISO 11140-4 certified by an independent laboratory

- **Reliable:** clear, reproducible measurement results
- **Accurate:** high-resolution graphical cycle display
- **Secure:** digital data recording and storage
- **Easy:** to use and evaluate

Type	Description	Part No.
EBI 16	Alternative Bowie&Dick-Test	1340-6697

Accessories and Interface-Sets



Battery replacement set AL 120
for EBI 12

Consisting of 3 batteries, 6 O-rings with grease and opening tool EBI 12

Battery set AL 104
for EBI 12

Consisting of 3 batteries, 6 O-rings with grease



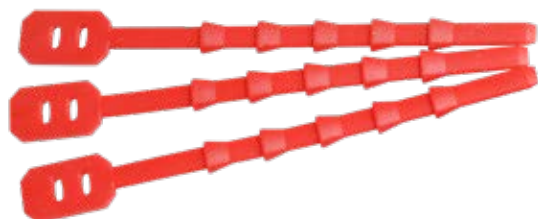
AL 121 opening tool EBI 12

To open the data loggers e.g. for battery change



AL 122 eyelet ring EBI 12

For securing the EBI 12 data loggers in process



AL 190 Silicone cable strap

To hold the flexible cable probes of the EBI 12 data loggers



AL 132 Flow adapter

For a stabilized conductivity measurement in WD with EBI 12-T230



Silicone protection box

- Protects EBI 12 Data Loggers against heat peaks
- Protects EBI 12 Data Loggers against mechanical damage
- Extends the life of EBI 12 Data Loggers



Silicone protection box AL 101

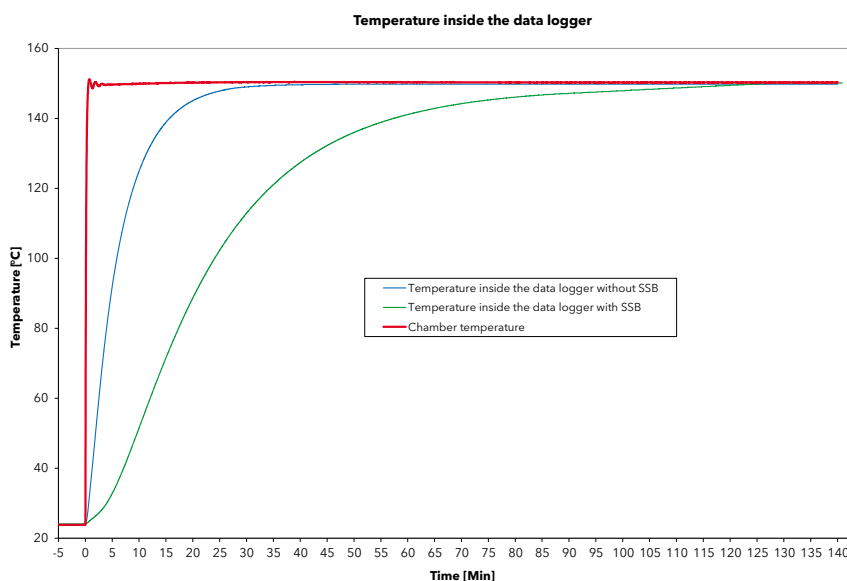
for e.g.
EBI 12-TP222,
EBI 12- TP322,
EBI 12-TP422 and
EBI 12-TP45x

Ø 78 mm,
Height: 50 mm

Silicone protection box AL 107

for e.g.
EBI 12- T24x,
EBI 12-T441,
EBI 12- T67x und
EBI 12-T471

Ø 78 mm,
Height: 44 mm



Thermal Insulation Boxes

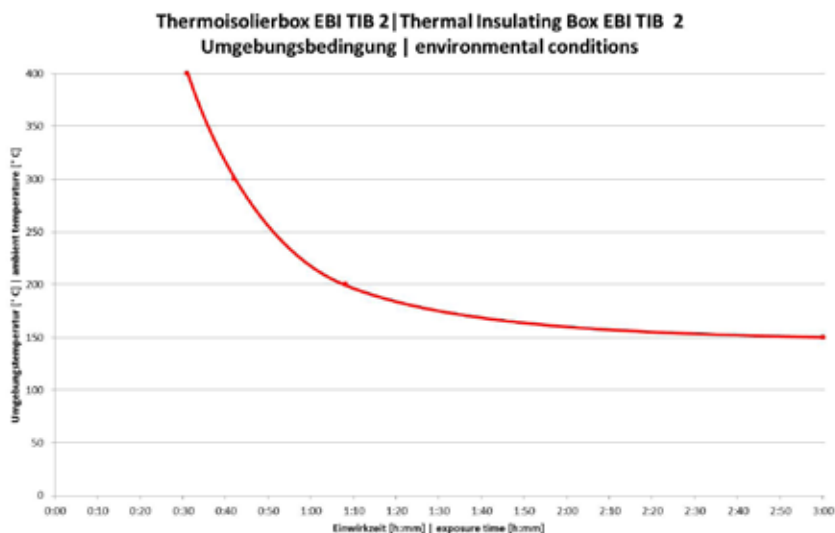
- Usable from +150 °C ... +400 °C
- Thermal protection of data loggers
- Stainless steel



Thermal insulation box EBI TIB 2

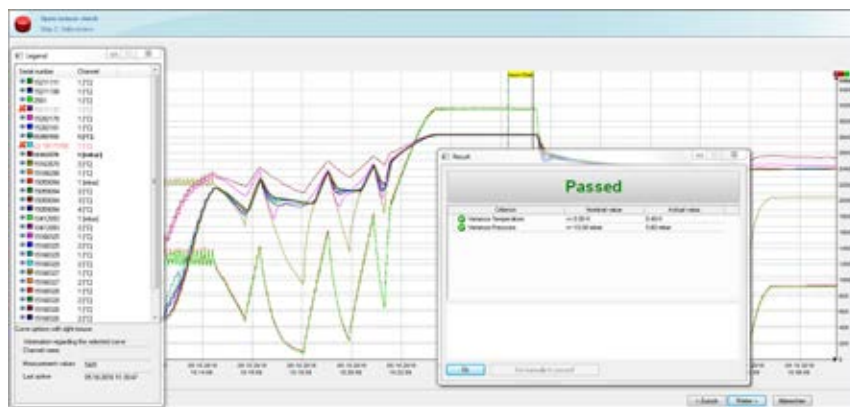
for EBI 12-T221 and EBI 12-T421

- EBI TIB 2: 160 mm x 160 mm x 60 mm



AL 285 **Logger-Check** For thermal measuring system control in steam sterilizer

In combination with the software Winlog.validation the AL 285 offers you a simple functional check of the measuring channels.



EN ISO 17665-1, paragraph 9.1.4

Verification of the calibration value of the measuring instrument that is used for the validation of the sterilization process at process condition.

- Easy and reproducible test with automatic generation of reports.
- The tests are stored permanently in the database





Set SI 1100
for EBI 12 and EBI 11

- 2-port Interface IF 100
- Software Winlog.pro
- USB connection
- Colored LEDs signaling programming, readout and incorrect development
- Includes antenna



Set SI 1200
for EBI 12

- 4-port Interface IF 200
- Software Winlog.pro
- USB connection
- Colored LEDs signaling programming, readout and incorrect development
- Includes antenna



Set SI 2100
for EBI 12 and EBI 11

- 2-port Interface IF 100
- Software Winlog.med
- USB connection
- Colored LEDs signaling programming, readout and incorrect development
- Includes antenna



Set SI 2110
for EBI 12

- 4-port Interface IF 200
- Software Winlog.med
- USB connection
- Colored LEDs signaling programming, readout and incorrect development
- Includes antenna



Set SI 2150
for EBI 12 and EBI 16

- 1-port Interface IF 150
- Software Winlog.med
- USB connection
- Colored LEDs signaling programming, readout and incorrect development



Set SI 3200
for EBI 12

- 4-port Interface IF 200
- Software Winlog.validation
- USB connection
- Colored LEDs signaling programming, readout and incorrect development
- Includes antenna



AL 112
for IF100 and IF 200

- Developed for real time monitoring
- AL 112 is a cable with 3 m length
- Antenna placement in the field of the door seal of a sterilizer or washer-disinfector
- Antenna steam-tight
- It is possible by a sealing to introduce it in the chamber



Can adapter set
EBI DA-Set

With this adapter set you can fix the data loggers at cans or plastic bags. Designed for data loggers of the EBI 12 series with axial, radial or external probes. Hereby you assure the use to ensure proper probes placement.



Can adapter EBI DA
for bottle loggers
(see page 14)



Bottle adapter EBI FL-S
silicone
for bottle loggers
(see page 14)



Grommets for sensor fixing EBI NI-140
Allows precise mounting of the logger sensor in cans and glass.



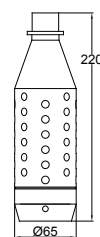
Compression fitting EBI KV-3
Allows precise mounting of the logger sensor in glass (caps).



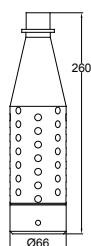
Dummy bottle

Please find EBI 12-T23X Temperature data logger from page 12.

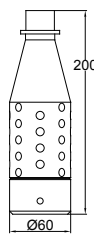
The dummy bottles can be screwed to the ground. This allows the EBI 12 to be positioned within the bottle.



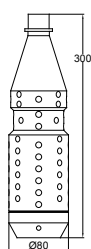
Dummy C



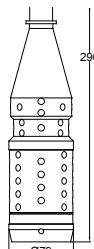
Dummy 0,5 l



Dummy E



Dummy 1 l



Dummy 0,7 l

Type	Description	Part No.
SI 1100	Set: Interface EBI IF 100 and Software Winlog.pro	1340-6061
SI 1200	Set: Interface EBI IF 200 and Software Winlog.pro	1340-6062
SI 2100	Set: Interface EBI IF 100 and Software Winlog.med	1340-6064
SI 2110	Set: Interface EBI IF 200 and Software Winlog.med	1340-6095
SI 2150	Set: Interface EBI IF 150 and Software Winlog.med	1340-6193
SI 3200	Set: Interface EBI IF 200 and Software Winlog.	1340-6068 validation
AL 101	Silicone protection box for EBI 12 Pressure Data Logger	1340-6021
AL 102	Silicone protection box for EBI 12 Temperature Data Logger with 2 radial probes	1340-6022
AL 106	Silicone protection box for EBI 12 Temperature Data Logger with 1 radial probe	1340-6023
AL 107	Silicone protection box for EBI 12 Temperature Data Logger with axial probes	1340-6024
AL 104	Battery Set for EBI 12	1100-0118
AL 120	Battery Replacement Set incl. opening Tool for EBI 12	1100-0130
AL 121	Battery change tool (2 parts) EBI 12	1100-0131
AL 122	Eyelet ring EBI 12	1100-0132
AL 112	Antenna steam sterilizer	1340-6007
AL 132	Flow adapter for EBI 12-TC 230	1248-0132
AL 190	Silicone cable strap set, consisting of 10 pcs.	1248-0190
AL 285	Logger-Check	1248-0285
EBI TIB2	Thermal Insulation box 160 mm x 160 mm x 60 mm	1340-1892
EBI DA	Can adapter for bottle loggers	1340-1963
EBI DA-Set	Can adapter set for bottle loggers	1340-1984
EBI FL-S	Bottle adapter, silicone	1340-1961
EBI NI-140	Grommets for sensor fixing up to +140 °C (100 pieces)	1340-1988
EBI KV-3	Compression fitting	1340-2005
Dummy C	Dummy Bottle POM 220 mm x 65 mm	1340-2255
Dummy 0,5L	Dummy Bottle POM 0,5 l	1340-2256
Dummy E	Dummy Bottle POM 200 mm x 60 mm	1340-2257
Dummy 1L	Dummy Bottle POM 1 l	1340-2258
Dummy 0,7L	Dummy Bottle POM 0,7 l	1340-2259