EBI 3x0 PDF Data Loggers

Cold Chain Monitoring

The easy to use data loggers with USB connection monitor the temperature and/or humidity during transport and storage of sensitive goods like medicine, food, serums etc. Measurement reports are created automatically as PDF files when you connect the logger to a PC.

The EBI 300 and EBI 310 PDF data loggers are suitable for multi-use, the EBI 330 data loggers are single-use versions which can be ordered preconfigurated and are used especially when returning a more expensive multi-use logger to the sender after a shipment is difficult. Please contact us for more information.

-ebro-
a xylem brand

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Program | Measure

- Programming of the logger with the help of the free online configurator at **www.ebi300.com** or optionally via the ebro software Winlog.basic, Winlog.light or Winlog.pro
- Set optional limits and start to record the measurement data

Connect | Readout

- Connection of the logger to any PC via the USB port
- Automatic generation of a PDF report with all important measurement data

Evaluate | Archive

- Store, save or email the PDF-report
- Further processing of the measurement data with the software Winlog.basic, Winlog.light or Winlog.pro

Benefits

- Direct USB connection
- Automatic PDF report generation
- Programmable at **www.ebi310.com**, no special software for programming and readout required but available
- Indication of alarm status via flashing LED
- Data integrity
- Conforms with FDA 21 CFR Part 11, DIN EN 12830 and ATP
- The data loggers help you to comply with GMP and VO (EG) 37/2005
- Free firmware updates at your place via software
- Excellent value-for-money

Digital interface

- Digital interface between loggers and external probes (at EBI 300 TE, EBI 300 TH, EBI 310 TE, EBI 310 TH, EBI 310 DI and EBI 310 TX).
- Data logger functions as data collector with optional internal sensor
- Easy exchange of the external probes e.g. for calibration: remove and send probe, connect replacement probe, measure!
- No calibration of the data collector required, if internal probe is not used!

Which EBI 310 PDF data logger is the right one for your application?

Every EBI 3x0 PDF data logger has the afore mentioned properties. Depending on the application, claim and your purse, there are different requirements for which we have the right devices. The following overview shall help making the decision.

	EBI 310	EBI 310 TE	EBI 310 DI	EBI 310 TX	EBI 310 TH
Applications					
Monitoring of deep temperatures		✓	✓	✓*	
Monitoring of high temperatures		✓		✓*	
Humidity monitoring					✓
Storage monitoring	✓	✓	✓	✓*	✓
Transport monitoring	✓	✓	✓	✓*	✓
Process monitoring		✓		✓*	✓
Usage within dry ice			✓		
Measurement channels					
Internal temperature channel	✓	✓	✓	✓	✓
External temperature channel		1	1	2 *	1
Sensor cable		✓	✓	✓*	
High precision (Pt 1000)	✓	✓	✓	✓	✓
Humidity channel					✓
Usage					
Multi-use	✓	✓	✓	✓	✓
Calibration certificate					
Including factory calibration certificate	✓	✓	✓	✓*	✓
Other features					
Display	✓	✓	✓	✓	✓
Very flexible alarms (5 limits and MKT)	✓	✓	✓	✓	✓
High memory capacity (120,000 measurements)	✓	✓	✓	✓	✓

** with connected, exchangeable sensors*

General technical specifications: valid for all EBI 310 data logger types*

Memory capacity	120,000 measurements
Alarm	5 ranges
PDF creation	PDF/A 1b
LED	Yes (red and yellow)
Storage temperature	-40 °C ... +85 °C (-40 °F ... +185 °F)
Sample rate	1 s … 24 h
Measurement modes	• Endless measurement • Start / Stop • Measurement until end of memory • Start with key press
Display	Value, MIN / MAX, until end of memory, alarm on / off
Maximum start delay	72 h
Housing material	Polycarbonate
Certificate	Factory calibration certificate
Norms	DIN EN 12830

** Please find the exact technical data of each EBI 310 data logger type on on the next pages.*

EBI 310 Multi-Use PDF Data Logger
High precision version

Technical Data

Measurement range/operating temperature	-30 °C … +75 °C (-22 °F ... +167 °F) *By connecting an external probe, the temperature measurement range can be extended.*
Accuracy	±0.2 °C (-30 °C … +30 °C / -22 °F ... +86 °F) ±0.5 °C for the remaining measurement range
Sensor	PT 1000
Resolution	0.1 °C
Dimensions (L x W x H)	80 x 33 x 14 mm
Protection class	IP 65
Battery	Lithium button cell (CR 2450), 3 V
Battery lifetime	Up to 2 years, depending on applications
Factory calibration certificate	-20 °C, 0 °C and +60 °C

Type	Description	Part No.
EBI 310	High Precision PDF Data Logger	1340-6331

Accessories for the EBI 310, EBI 310 TE, EBI 310 DI, EBI 310 TX and EBI 310 TH

EBI 300-WM2 Wall Mount for EBI 300 / 310

EBI 300 WM3 transportation mount for EBI 300 / 310 made of stainless steel

Type	Description	Part No.
EBI 300-WM2	Wall Mount for EBI 300 / 310	1340-6341
EBI 300 WM3	Transportation mount for EBI 300 / 310	1340-6344

EBI 310 TE Multi-Use PDF Data Logger with external precision temperature probe

Measurement of high and low temperatures

EBI 310 TE

Technical Data

Measurement range external temperature	-200 °C … +250 °C (-328 °F … +482 °F)
Measurement range internal temperature / operating temperature	-30 °C … +75 °C (-22 °F … +167 °F)
Accuracy (internal)	± 0.2 °C (- 30 °C … + 30 °C / - 22 °F … +86 °F) ± 0.5 °C for the remaining measurement range
Accuracy (external)	± 2.0 °C (- 200 °C … -100 °C / - 328 °F … - 148 °F) ± 1.0 °C (- 100 °C … -20 °C / - 148 °F … - 4 °F) ± 0.2 °C (- 20 °C … + 60 °C / - 4 °F … +160 °F) ± 0.5 °C (+60 °C … + 250 °C / +160 °F … +482 °F)
Probe	Pt 1000, Stainless steel, Ø 5 mm, L = 50 mm, blunt
Cable	PTFE, L = 1 m, waterproof, oilproof and food safe
Resolution	0.1 °C
Dimensions (L x W x H)	91 x 33 x 14 mm
Protection class	IP 65
Battery	Lithium button cell (CR 2450), 3V
Battery life time	Up to 2 years, depending on applications
Factory calibration certificate	-80 °C, 0 °C, +60 °C and +134 °C

- Simultaneous measurement of core temperature and ambient temperature
- Internal temperature probe usable additionally

Type	Description	Part No.
EBI 310 TE	PDF Data logger with external precision temperature probe	1340-6337
TPX 220	Replacement probe for EBI 310 TE	1341-6332
TPX 220-3	Replacement probe with 3 m cable for EBI 310 TE	1341-6332-0100

EBI 310 DI Multi-Use USB Data Logger for dry ice measurements

Precise temperature measurements in dry ice

EBI 310 DI

Technical Data

Measurement range external temperature / operating temperature	-85 °C … +50 °C (-121 °F … +122 °F)
Measurement range internal temperature	-30 °C … +75 °C (-22 °F … +167 °F)
Accuracy (internal)	± 0.2 °C (- 30 °C … + 30 °C / - 22 °F … +86 °F) ± 0.5 °C for the remaining measurement range
Accuracy (external)	± 1.0 °C (- 85 °C … -20 °C / - 121 °F … - 4 °F) ± 0.2 °C (- 20 °C … + 50 °C / - 4 °F … +122 °F)
Probe	Pt 1000, Stainless steel, Ø 5 mm, L = 50 mm, blunt
Cable	PTFE, L = 60 cm, waterproof, oilproof and food safe
Resolution	0.1 °C
Dimensions (L x W x H)	100 x 33 x 14 mm
Protection class	IP 65
Battery	Lithium button cell in the logger, lithium battery in the probe, both changeable by the user
Battery life time	**10 transports of up to 100h each**
Factory calibration certificate	-80 °C and 0 °C

- Additional battery allows usage within dry ice
- Internal temperature probe usable additionally

Type	Description	Part No.
EBI 310 DI	PDF Data logger for dry ice measurements	1340-6338
TPX 250	Replacement probe for EBI 310 DI	1341-6333
AL 118	Battery change set for TPX 250	1100-0126

EBI 310 TH Multi-Use PDF Data Logger with external humidity and temperature probe

Relative humidity monitoring in storages and during transports

EBI 310 TH

You can find suitable filter caps for humidity sensors online at www.ebro.com

- Internal temperature probe usable additionally

Technical Data

Measurement range temperature / operating temperature	-30 °C … +75 °C (-22 °F ... +167 °F)
Accuracy (internal)	± 0.2 °C (- 30 °C … + 30 °C / -22 °F ... +86 °F) ± 0.5 °C for the remaining measurement range
Accuracy (external)	± 0.5 °C (0 °C … + 60 °C / +32 °F ... +140 °F) ± 0.8 °C for the remaining measurement range
Probe temperature	Pt 1000
Measurement range humidity	0% rH … 100% rH
Accuracy humidity	± 2% between 10% rH … 90% rH (at 25 °C / +77 °F) ± 4% for the remaining measurement range
Probe humidity	capacitive
Resolution temperature	0.1 °C
Resolution humidity	0.1% rH
Dimensions (L x W x H)	129 x 33 x 14 mm
Protection class	IP 20
Battery	Lithium button cell (CR 2450), 3V
Battery life time	Up to 2 years, depending on applications
Factory calibration certificate	0 °C and +20 °C; 32.8% and 75.4% rH

Type	Description	Part No.
EBI 310 TH	PDF Data logger with external humidity probe	1340-6336
TPH 500	Replacement probe for EBI 310 TH	1341-6337
AH 100	PTFE filter	1340-5627
AH 300	Stainless steel sintered filter	1340-5625

EBI 310 TX Multi-Use PDF Data Logger with temperature-two-channel-adapter

Temperature monitoring in storages and during transport, process monitoring

EBI 310 TX

exchangeable sensors

- Up to two exchangeable probes can be connected; not included, *see the following page*
- Internal temperature probe usable additionally

Technical Data

Measurement range external temperature	-200 °C … + 400 °C (-328 °F ... +752 °F), dependent on probe type
Measurement range internal temperature / operating temperature	-30 °C … +75 °C (-22 °F ... +167 °F)
Accuracy (internal)	± 0.2 °C (- 30 °C … + 30 °C / -22 °F ... +86 °F) ± 0.5 °C for the remaining measurement range
Probe	Pt 1000
Resolution	0.1 °C
Dimensions (L x W x H)	111 x 33 x 14 mm
Protection class	IP 65
Battery	Lithium button cell (CR 2450), 3V
Battery life time	Up to 2 years, depending on applications
Factory calibration certificate	-200 °C, 0 °C and +400 °C

Type	Description	Part No.
EBI 310 TX	PDF Data logger with temperature-two-channel-adapter	1340-6339
TPX 310	Replacement adapter for EBI 310 TX	1341-6335

Exchangeable probes for EBI 310 TX

TPX 310-P1

- Measurement range: -200 °C ... +200 °C (-328 °F ... +392 °F)
- Needle: L = 45 mm, Ø = 5 mm, blunt
- Cable: PTFE, L = 3 m

Temperature		Accuracy
-200…-100 °C	-328…-148 °F	1.7 °C
-100…-20 °C	-148…-4 °F	1.2 °C
-20…+60 °C	-4…+140 °F	1.0 °C
+60…+200 °C	+140…+392 °F	1.7 °C

TPX 310-P2

- Measurement range: -50 °C ... +180 °C (-58 °F ... +356 °F)
- Needle: L = 130 mm, Ø = 3 mm, blunt
- Cable: PTFE, L = 3 m

Temperature		Accuracy
-50…+60 °C	-58…+140 °F	0.6 °C
+60…+180 °C	+140…+356 °F	0.9 °C

TPX 310-P3

- Measurement range: -50 °C ... +180 °C (-58 °F ... +356 °F)
- Needle: L = 130 mm, Ø = 3 mm, blunt
- Cable: PTFE, L = 1 m

Temperature		Accuracy
-50…+60 °C	-58…+140 °F	0.5 °C
+60…+180 °C	+140…+356 °F	0.8 °C

TPX 310-P4

- Measurement range: +100 °C ... +400 °C (+212 °F ... +752 °F)
- Needle: L = 50 mm, Ø = 1.5 mm, blunt
- Cable: metal wrapped, L = 3 m, not waterproof

Temperature		Accuracy
+100…+250 °C	+212…+482 °F	1.1 °C
+250…+400 °C	+482…+752 °F	1.4 °C

TPX 310-P5

- Measurement range: -50 °C ... +180 °C (-58 °F ... +356 °F)
- Probe: L = 130 mm, Ø = 3 mm, blunt
- Cable: PTFE, L = 5 m

Temperature		Accuracy
-50…-20 °C	-58…-4 °F	0.5 °C
-20…+60 °C	-4…+140 °F	0.6 °C
+60…+180 °C	+140…+356 °F	0.8 °C

TPX 310-P6

- Measurement range: -50 °C ... +180 °C (-58 °F ... +356 °F)
- Probe: L = 130 mm, Ø = 3 mm, blunt
- Cable: PTFE, L = 7.5 m

Temperature		Accuracy
-50…+60 °C	-58…+140 °F	0.7 °C
+60…+180 °C	+140…+356 °F	1.0 °C

TPX 310-P7

- Measurement range: -50 °C ... +180 °C (-58 °F ... +356 °F)
- Probe: L = 130 mm, Ø = 3 mm, blunt
- Cable: PTFE, L = 10 m

Temperature		Accuracy
-50…+60 °C	-58…+140 °F	0.9 °C
+60…+180 °C	+140…+356 °F	1.1 °C

Type	Description	Part No.
TPX 310-P1	External sensor for EBI 310 TX	1341-6338
TPX 310-P2	External sensor for EBI 310 TX	1341-6339
TPX 310-P3	External sensor for EBI 310 TX	1341-6340
TPX 310-P4	External sensor for EBI 310 TX	1341-6341
TPX 310-P5	External sensor for EBI 310 TX	1341-6342
TPX 310-P6	External sensor for EBI 310 TX	1341-6343
TPX 310-P7	External sensor for EBI 310 TX	1341-6344

www.EBI310.com appear in a new design

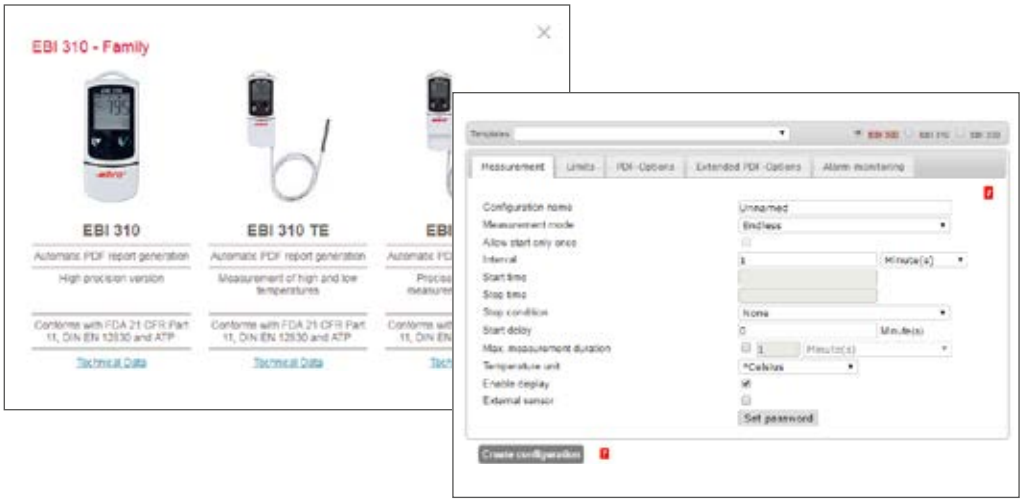
Easy to Use!

Start → Connect → Inspect

Information
About Data Logger and Applications.

Configuration
Configure your PDF- data logger and program it by using Windows™ PC.

Simple and clear
Also usable with smartphone or Tablet.



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