Lives International®

Thermal Validation And Mapping Solutions For Pharma And Biotech

High Efficiency, Reliability And Accuracy

www.lives-international.com

-2019-

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CONTENTS

Table of Contents

Contents 3

GMP RF Wireless Real Time Data Loggers -90 to +140°C 4

Thermal Validation & Mapping Services 21

GMP Standard Data Loggers -90 to +140°C 22

GDP Standard Data Loggers -40 to +85°C 32

LMS Wireless Real Time Data Loggers -40 to +85°C 34

XpertVal 36

Thermocouples 37

XpertRTD 38

XpertLog SCADA 39

XpertLog Software 40

XperTrack GPS Tracker 41

Ametek blocks 42

Fluke blocks and baths 44

Accessories 45

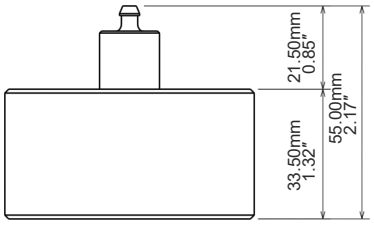
Applications 46

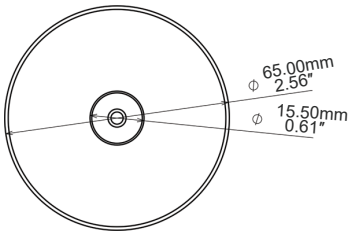
Contact 48

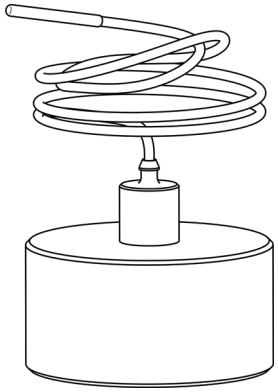
GMPF RF

Real Time Temperature Data Logger -90 to +140°C

- + *Collects and transmits real time temperature to XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*
- + *Calibration can be performed on site*
- + *Can be remotely activated*







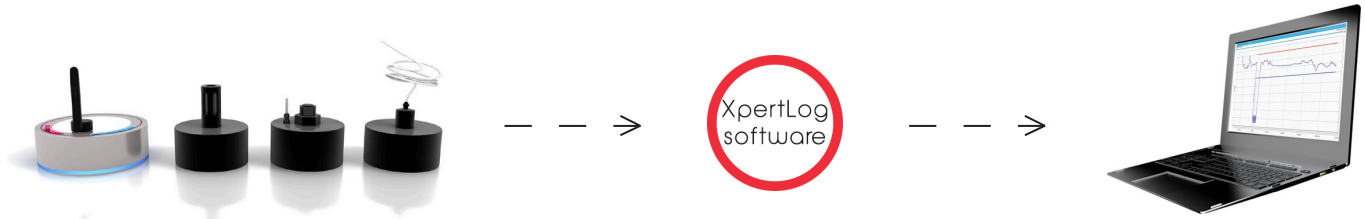
Sensor type	4 wires PT-100
- flexible	480 mm (19")
- customized	Up to 5000 mm (195")
- sensor size	1.5 x 8 mm (0.06 x 0.315")
- cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- body temp.	-90°C to +140°C
- sensor temp.	-200°C to +200°C
Accuracy	±0.1°C from -90 to +140°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	115 g (4.06 oz)
- diameter	65 mm (2.56")
- height	55 mm (2.17")
Power	2 x Lithium batteries, 0.35 g/each content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMPF_RF

Standard Calibration Points

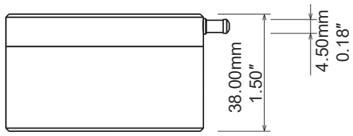
- -80°C
- 0°C
- 140°C

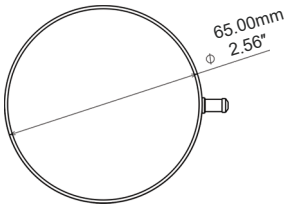


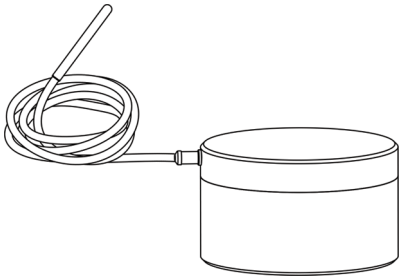
GMPF LP RF

Real Time Temperature Data Logger -90 to +140°C

- + *Collects and transmits real time temperature to XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*
- + *Calibration can be performed on site*
- + *Can be remotely activated*







Sensor type	4 wires PT-100
- flexible	480 mm (19")
- customized	Up to 5000 mm (195")
- sensor size	1.5 x 8 mm (0.06 x 0.315")
- cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- body temp.	-90°C to +140°C
- sensor temp.	-200ºC to +200°C
Accuracy	±0.1°C from -90°C to +140°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	110 g (3.88 oz)
- diameter	65 mm (2.56")
- height	38 mm (1.5")
Power	2 x Lithium batteries, 0.35 g/each content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMPF-LP_RF

Standard Calibration Points

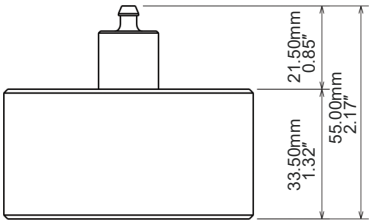
- -80°C
- 0°C
- 140°C

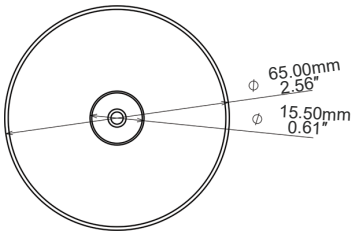
XpertLog software

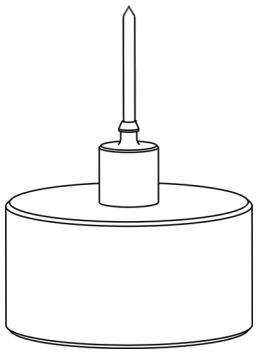
GMP RF

Real Time Temperature Data Logger -90 to +140°C

- + *Collects and transmits real time temperature to XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*
- + *Can be remotely activated*







Sensor type	4 wires PT-100
- rigid	20 mm (0.8") / 150 mm (6")
- customized	available
- sensor size	1.5 x 8 mm (0.06 x 0.315")
- cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- body temp.	-90°C to +140°C
- sensor temp.	-90°C to +140°C
Accuracy	±0.1°C from -90 to +140°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	115 g (4.06 oz)
- diameter	65 mm (2.56")
- height	55 mm (2.17")
Power	2 x Lithium batteries, 0.35 g/each content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMP_RF

Standard Calibration Points

- -80°C
- 0°C
- 140°C

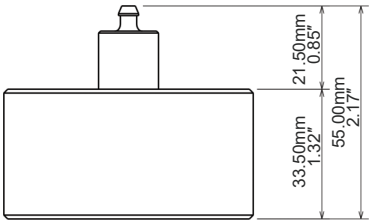
XpertLog software

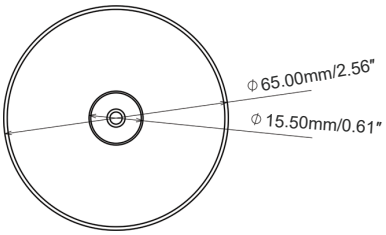
GMPL RF

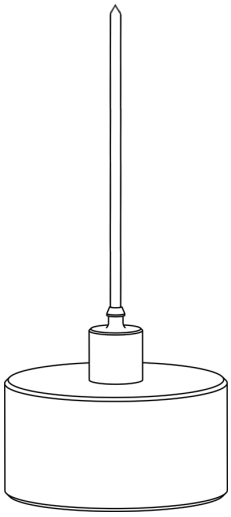
Real Time Temperature Data Logger -90 to +140°C

21 CFR Part 11

+ *Collects and transmits real time temperature to XpertLog Software*
+ *ITS-90 calibration coefficients are stored in the internal memory*
+ *Complies with FDA 21 CFR Part 11*
+ *Network ready: multiple users, centralized, server database, active directory authentication*
+ *Can be remotely activated*







Sensor type	4 wires PT-100
- rigid	150 mm (6")
- customized	available
- sensor size	1.5 x 8 mm (0.06 x 0.315")
- cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- body temp.	-90°C to +140°C
- sensor temp.	-90°C to +140°C
Accuracy	±0.1°C from -90 to +140°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	115 g (4.06 oz)
- diameter	65 mm (2.56")
- height	55 mm (2.17")
Power	2 x Lithium batteries, 0.35 g/each content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMPL_RF

Standard Calibration Points

- -80°C
- 0°C
- 140°C

XpertLog software

GMP Custom RF

Real Time Temperature Data Logger -90 to +140°C

+ *Collects and transmits real time temperature to XpertLog Software*
+ *ITS-90 coefficients are stored in the internal memory*
+ *Complies with FDA 21 CFR Part 11*

Sensor type	4 wires PT-100
Accuracy	±0.1°C from -90°C to +140°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68

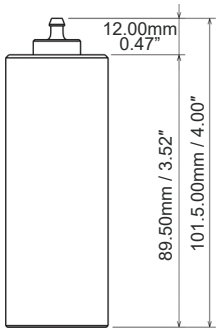
Power	2 x Lithium batteries, 0.35 g/each content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health Safety: EN 60950-1/2006

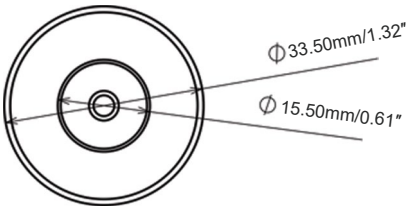
GMPF Bio RF

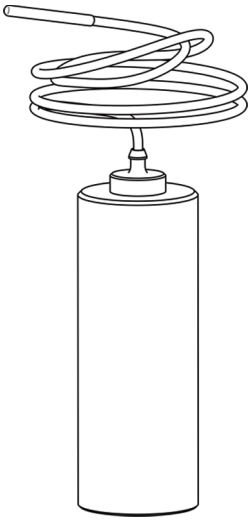
Real Time Temperature Data Logger -90 to +140°C

FDA 21 CFR Part 11

+ *Collects and transmits real time temperature to XpertLog Software*
+ *ITS-90 calibration coefficients are stored in the internal memory*
+ *Complies with FDA 21 CFR Part 11*
+ *Network ready: multiple users, centralized, server database, active directory authentication*
+ *Calibration can be performed on site*
+ *Can be remotely activated*







Sensor type	4 wires PT-100
- flexible	480 mm (19") PTFE
- customized	Up to 5000 mm (195")
- sensor size	1.5 x 8 mm (0.06 x 0.315")
- cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- body temp.	-90°C to +140°C
- sensor temp.	-200°C to 200°C
Accuracy	±0.1°C from -90°C to +140°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	67 g (2.36 oz)
- diameter	33.5 mm (1.32")
- height	101.5 mm (4.00")
Power	2 x Lithium batteries, 0.35 g/each content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMP-Bio_RF

Standard Calibration Points

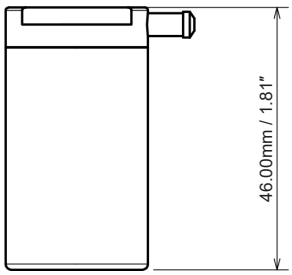
- -80°C
- 0°C
- 140°C

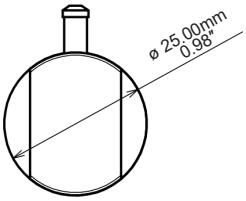
XpertLog software

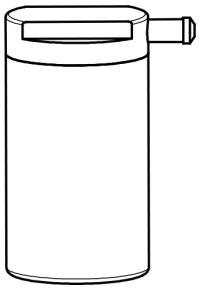
GMPF RF 10R

Real Time Temperature Data Logger -60 to +85°C

- + *Collects and transmits real time temperature to XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*
- + *Calibration can be performed on site*
- + *Can be remotely activated*
- + *Recommended for freeze-dryer (lyophilizer) usage*







Sensor type	4 wires thin
- flexible	150 mm (6") or custom length
- sensor size	1.2 x 2.8 mm (0.05 x 0.11")
- cross section	1.13 mm^2 (0.00175 inch^2)
Operating Range	
- body temp.	-60°C to +85°C
- sensor temp.	-80°C to +140°C
Accuracy	±0.1°C from -60 to +85°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	24 g (0.85 oz)
- diameter	25 mm (0.98")
- height	46 mm (1.81")
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 2 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMPF_RF_10R_4W_THIN

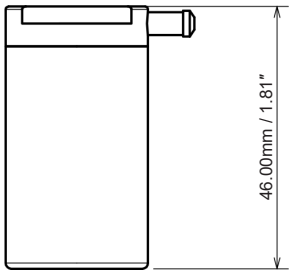
Standard Calibration Points

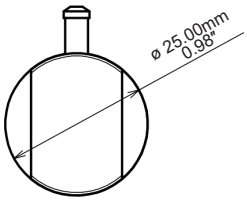
- -60°C
- 0°C
- 85°C

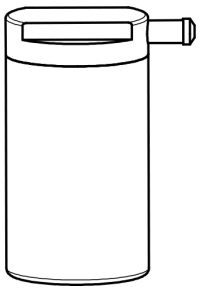
GMPF RF 10R SS

Real Time Temperature Data Logger -60 to +85°C

- + *Collects and transmits real time temperature to XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*
- + *Calibration can be performed on site*
- + *Can be remotely activated*







Sensor type	4 wires thin
- flexible	150 mm (6") or custom length
- sensor size	1.2 x 2.8 mm (0.05 x 0.11")
- cross section	1.13 mm^2 (0.00175 inch^2)
Operating Range	
- body temp.	-60°C to +85°C
- sensor temp.	-80°C to +140°C
Accuracy	±0.1°C from -60 to +85°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	24 g (0.85 oz)
- diameter	25 mm (0.98")
- height	46 mm (1.81")
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 2 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMPF_RF_10R_SS_4W_THIN

Standard Calibration Points

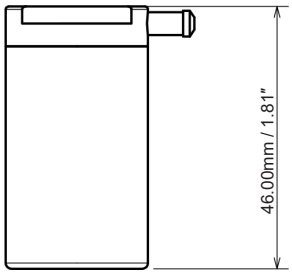
- -60°C
- 0°C
- 85°C

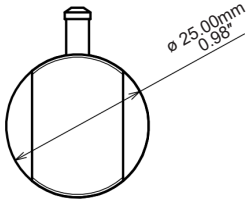
XpertLog software

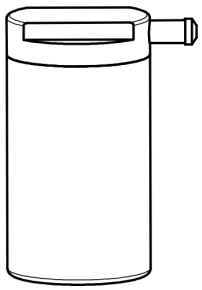
GMPF RF 10RA

Real Time Temperature Data Logger -60 to +85°C

- + *Collects and transmits real time temperature to XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*
- + *Calibration can be performed on site*
- + *Can be remotely activated*
- + *Can be sterilized in autoclave at 121°C cycle*







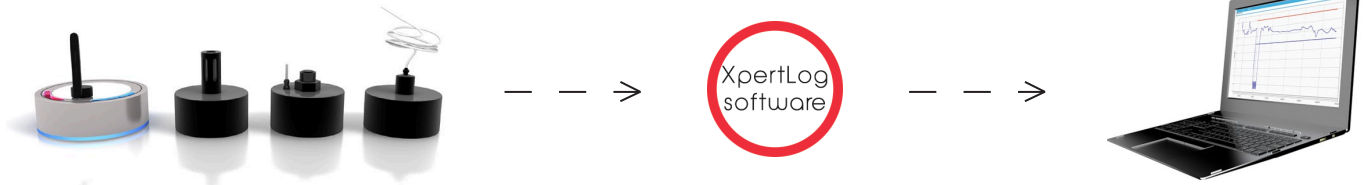
Sensor type	4 wires thin
- flexible	150 mm (6") or custom length
- sensor size	1.2 x 2.8 mm (0.05 x 0.11")
- cross section	1.13 mm^2 (0.00175 inch^2)
Operating Range	
- body temp.	-60°C to +85°C
- sensor temp.	-80°C to +140°C
Accuracy	±0.1°C from -60 to +85°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	24 g (0.85 oz)
- diameter	25 mm (0.98")
- height	46 mm (1.81")
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 2 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMPF_RF_10RA_4W_THIN

Standard Calibration Points

- -60°C
- 0°C
- 85°C

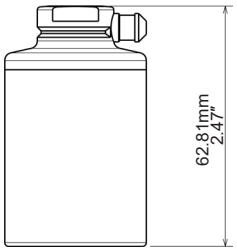


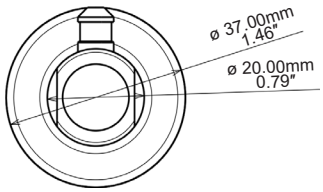
GMPF RF 30H

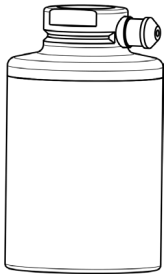
Real Time Temperature Data Logger -90 to +140°C

21 CFR Part 11

+ *Collects and transmits real time temperature to XpertLog Software*
+ *ITS-90 calibration coefficients are stored in the internal memory*
+ *Complies with FDA 21 CFR Part 11*
+ *Network ready: multiple users, centralized, server database, active directory authentication*
+ *Calibration can be performed on site*
+ *Can be remotely activated*







Sensor type	4 wires / 4 wires thin
- flexible	4 wires: 480 mm (19") / 4 wires thin: 150 mm (6") or custom length
- sensor size	4 wires: 1.5 x 8 mm (0.06 x 0.315")
	4 wires thin: 1.2 x 2.8 mm (0.05 x 0.11")
- cross section	4 wires: 1.77 mm² (0.0027 inch²)
	4 wires thin: 1.13 mm² (0.00175 inch²)
Operating Range	
- body temp.	-90°C to +140°C
- sensor temp.	4 wires: -200°C to +200°C
	4 wires thin: -90°C to +140°C
Accuracy	
- 4 wires	±0.1°C from -90 to +140°C
- 4 wires thin	±0.1°C from -90 to +140°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers
	Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	50 g (1.76 oz)
- diameter	37 mm (1.46")
- height	62.81 mm (2.47")
Power	2 x Lithium batteries, 0.35 g/each Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer
	Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory
	User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007
	RF: EN 300440-2 v1.3.1 (2009-03)
	Health & Safety: EN 60950-1/2006

Order Reference:

GMPF_RF_30H_4W

GMPF_RF_30H_4W_THIN

Standard Calibration Points

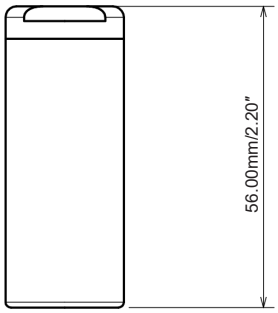
- -80°C
- 0°C
- 140°C

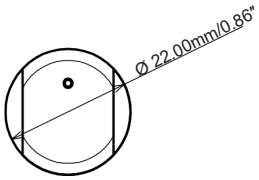
XpertLog software

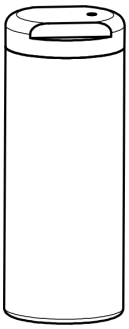
GMPF Mini RF

Real Time Temperature Data Logger -60 to +85°C

- + *Collects and transmits real time temperature to XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*
- + *Calibration can be performed on site*
- + *Can be remotely activated*







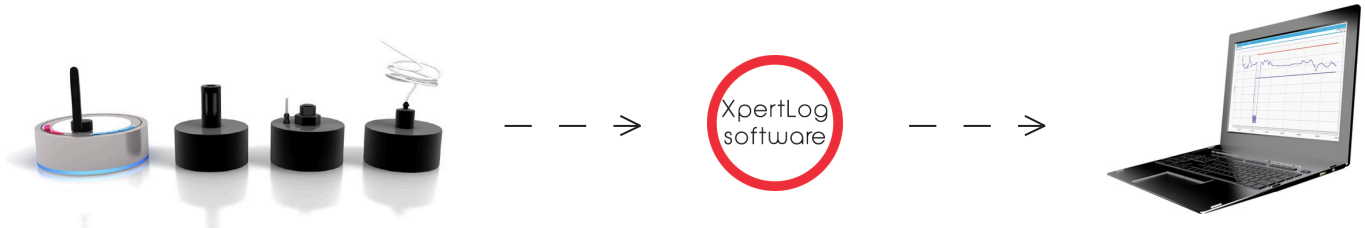
Sensor type	4 wires thin
- flexible	150 mm (6") or custom length
- sensor size	1.2 x 2.8 mm (0.05 x 0.11")
- cross section	1.13 mm^2 (0.00175 inch^2)
Operating Range	
- body temp.	-60°C to +85°C
- sensor temp.	-80°C to +140°C
Accuracy	±0.1°C from -60 to +85°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	19 g (0.67 oz)
- diameter	22 mm (0.86")
- height	56 mm (2.20")
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 2 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMPF_RF_Mini_4W_THIN

Standard Calibration Points

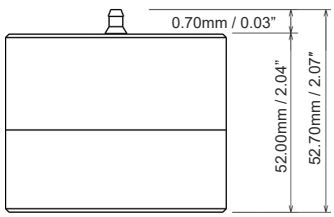
- -60°C
- 0°C
- 85°C

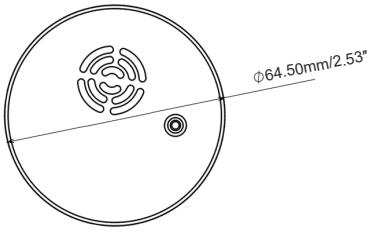


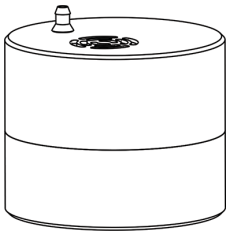
GMPF CO2 RF

Real Time CO_2 Data Logger 0-20% CO_2

- + *Collects and transmits real time CO_2 and temperature to XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database , active directory authentication*
- + *Can be remotely activated*







Sensor type	CO_2 - IR / Temp: 4 wires PT-100
- flexible	480 mm (19")
- customized	Up to 5000 mm (195")
- temp. sensor size	1.5 x 8 mm (0.06 x 0.315")
- temp. cross section	1.77 mm^2 (0.0027 $inch^2$)
Operating Range	
- CO2	0 to 20% CO_2
- body temp.	0°C to 50°C
- sensor temp.	-200°C to +200°C
- pressure	300 to 1100 mBar (built-in pressure compensation)
Accuracy	
- temperature	±0.1°C from -90°C to +140°C
- CO2	±0.5% CO_2 from 0 to 10%CO_2
Resolution	0.01% CO_2; 0.01°C
Memory capacity	16,000 data points CO_2 / 16,000 data points temperature
Sampling rate	2 min to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-30
- weight	153 g (5.39 oz)
- diameter	64.5 mm (2.53")
- height	52 mm (2.04")
Power	2 x Lithium batteries, 0.35 g/each content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMPF-CO2_RF

Fixed Gas Points

- 2%
- 5%
- 7.5%
- 10%

Standard Calibration Points

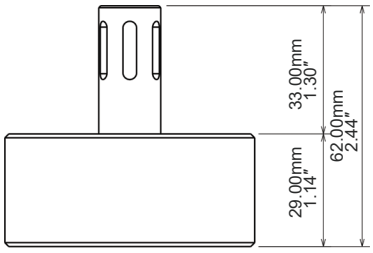
- 0°C
- 23°C
- 50°C

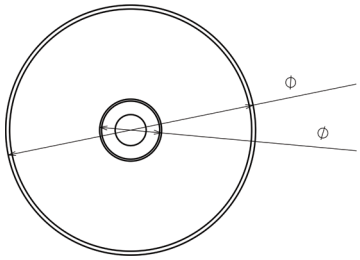
XpertLog software

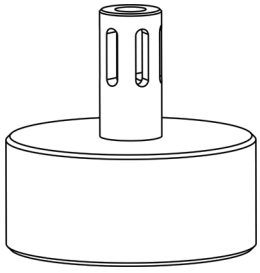
GMP RH RF

Real Time Humidity Data Logger 0-100% RH

- + *Collects and transmits real time humidity and temperature to XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*
- + *Can be remotely activated*







Sensor type	RH: capacitive / Temp: 4 wires PT-100
- rigid	20 mm (0.8")
- temp. sensor size	1.5 x 8 mm (0.06 x 0.315")
- temp. cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- humidity	0 to 100% RH non condensing
- body temp.	-40°C to +100°C
- sensor temp.	-40°C to +100°C
Accuracy	±2.0% RH, 0% to 100% non condensing at 20°C to 45°C ±0.1°C from -40 to +100°C
Resolution	0.01% RH; 0.01°C
Memory capacity	16,000 data points humidity / 16,000 data points temperature
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-51
- weight	95 g (3.35 oz)
- diameter	65 mm (2.56")
- height	62 mm (2.44")
Power	2 x Lithium batteries, 0.35 g/each content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMP-RH_RF

Standard Calibration Points

- 25° C / 20%RH
- 25° C / 45%RH
- 30° C / 65%RH
- 40° C / 75%RH

Upon special request:

- 45° C / 90%RH

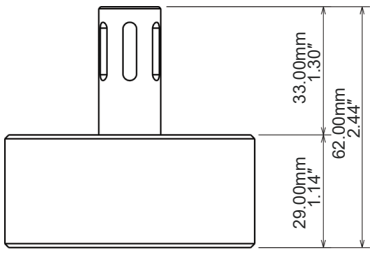
XpertLog software

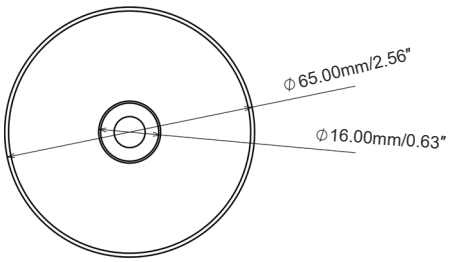
GMPF RH RF

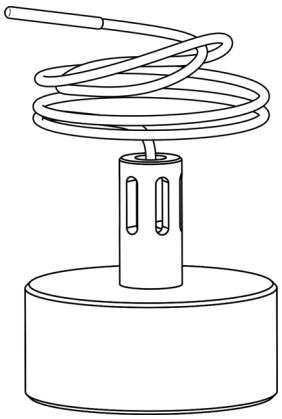
Real Time Humidity Data Logger 0-100% RH

FDA 21 CFR Part 11

+ *Collects and transmits real time humidity and temperature to XpertLog Software*
+ *ITS-90 calibration coefficients are stored in the internal memory*
+ *Complies with FDA 21 CFR Part 11*
+ *Network ready: multiple users, centralized, server database, active directory authentication*
+ *Can be remotely activated*







Sensor type	RH: capacitive / Temp: 4 wires PT-100
- flexible	480 mm (19")
- customized	Up to 5000 mm (195")
- temp. sensor size	1.5 x 8 mm (0.06 x 0.315")
- temp. cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- humidity	0 to 100% RH non condensing
- body temp.	-40°C to +100°C
- sensor temp.	-200°C to +200°C
Accuracy	±2.0% RH, 0% to 100% non condensing at 20°C to 45°C ±0.1°C from -40 to +100°C
Resolution	0.01% RH; 0.01°C
Memory capacity	16,000 data points humidity / 16,000 data points temperature
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-51
- weight	95 g (3.35 oz)
- diameter	65 mm (2.56")
- height	62 mm (2.44")
Power	2 x Lithium batteries, 0.35 g/each content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health Safety: EN 60950-1/2006

Order Reference:

GMPF-RH_RF

Standard Calibration Points

- 25° C / 20%RH
- 25° C / 45%RH
- 30° C / 65%RH
- 40° C / 75%RH

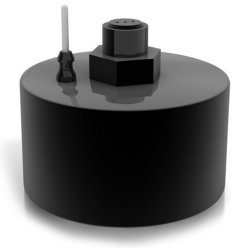
Upon special request:

- 45° C / 90%RH

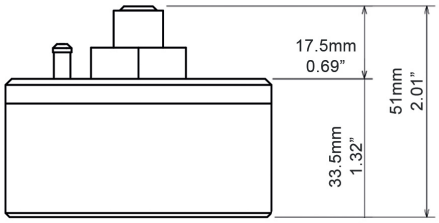
XpertLog software

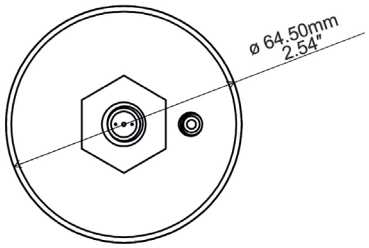
GMP P RF

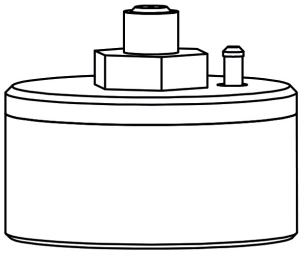
Real Time Pressure Data Logger 0.01 to 5.0 BarA



- + *Collects and transmits real time pressure and temperature to XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*
- + *Can be remotely activated*







Sensor type	Absolute pressure / Temp: 4 wires PT-100
- rigid	20 mm (0.8")
- temp. sensor size	1.5 x 8 mm (0.06 x 0.315")
- temp. cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- pressure	0.01 to 5 BarA
- temperature	-40°C to +140°C
Accuracy	±10 mbar ≤ 3 BarA @ 130°C; ±20 mbar ≤ 3 BarA @ 23°C; ±30 mbar > 3 BarA @ 130°C; ±50 mbar > 3 BarA @ 23°C; ±0.1°C from -40 to +140°C
Resolution	0.1 mbar; 0.01°C
Memory capacity	16,000 data points pressure / 16,000 data points temperature
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	122 g (4.30 oz)
- diameter	64.50 mm (2.54")
- height	51.0 mm (2.01")
Power	2 x Lithium batteries, 0.35 g/each content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMP-P_RF

Standard Calibration Points

hysteresis at 23°C and 130°C:

- 0.05 BarA
- 0.50 BarA
- 1.00 BarA
- 1.50 BarA
- 2.00 BarA
- 2.50 BarA
- 3.00 BarA
- 3.50 BarA
- 4.00 BarA
- 4.50 BarA
- 5.00 BarA

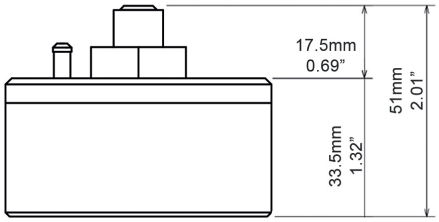
XpertLog software

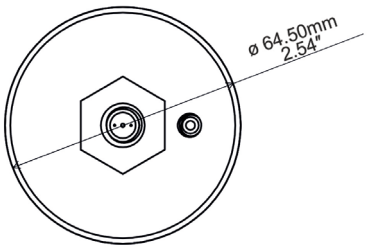
GMPF P RF

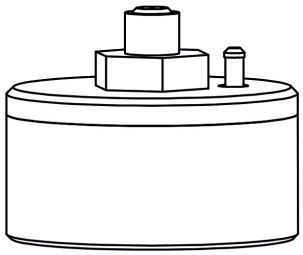
Real Time Pressure Data Logger 0.01 to 5.0 BarA

21 CFR Part 11

+ *Collects and transmits real time pressure and temperature to XpertLog Software*
+ *ITS-90 calibration coefficients are stored in the internal memory*
+ *Complies with FDA 21 CFR Part 11*
+ *Network ready: multiple users, centralized, server database, active directory authentication*
+ *Can be remotely activated*







Sensor type	Absolute pressure / Temp: 4 wires PT-100
- flexible	480 mm (19") PTFE/SS
- customized	Up to 5000 mm (195")
- temp. sensor size	1.5 x 8 mm (0.06 x 0.315")
- temp. cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- pressure	0.01 to 5 BarA
- body temp.	-40°C to +140°C
- sensor temp.	-200°C to +200°C
Accuracy	±10 mbar ≤ 3 BarA @ 130°C; ±20 mbar ≤ 3 BarA @ 23°C; ±30 mbar > 3 BarA @ 130°C; ±50 mbar > 3 BarA @ 23°C; ±0.1°C from -40 to +140°C
Resolution	0.1mbar; 0.01°C
Memory capacity	16,000 data points pressure / 16,000 data points temperature
Sampling rate	1 sec to 24 hours
Transmission	Simultaneous: maximum 20 loggers Sequential: unlimited
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	129 g (4.55 oz)
- diameter	64.50 mm (2.54")
- height	51.0 mm (2.01")
Power	2 x Lithium batteries, 0.35 g/each content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Antenna	Internal
Wireless range	121 m (400')
Radio frequency	2.4 GHz ISM band
Access point	USB to computer Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

GMPF-P_RF

Standard Calibration Points

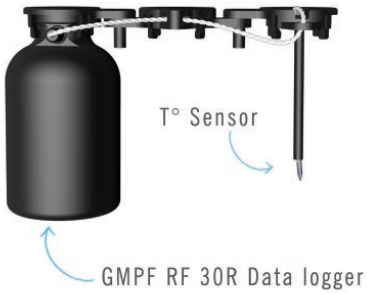
hysteresis at 23°C and 130°C:

- 0.05 BarA
- 0.50 BarA
- 1.00 BarA
- 1.50 BarA
- 2.00 BarA
- 2.50 BarA
- 3.00 BarA
- 3.50 BarA
- 4.00 BarA
- 4.50 BarA
- 5.00 BarA

XpertLog software

LYO CATERPILLAR

ALUS System Data Logger -90 to +140°C



The Lyo Caterpillar system is designed to offer full integration of real time data loggers with the automatic loading and unloading systems used with lyophilizers .

This system is composed of three different parts:

- The first part is the RF real time data logger that stores and transmits the temperature data
- The second part is a buffer vial
- The third piece is the vial containing the product where the temperature is to be measured.

The Lyo Caterpillar holds the three pieces together, allowing the whole system to move freely on the belt during the automatic loading and unloading process.

The temperature sensor is very small and has thin gauge sensor wire which combined result in the absolute minimum of influence on the process during the measurement. The sensor is held securely in position by the sensor holder thus allowing very accurate temperature measurement in the critical location at the bottom of the vial.

The buffer vial between the data logger and the measurement vial eliminates completely the influence of the data logger body during the measurement.

The materials of construction allow the Lyo Caterpillar to be used continuously at temperatures up to 250 °C / 482 °F and can be sterilized in steam autoclaves or in hydrogen peroxide.

The Lyo Caterpillar system comes by in default sizes of 10R or 30R vials and can be customized for different sized vials depending on users requirements.

Order Reference:

GMPF_RF_XX

where XX is the type of vial

XpertLog software

Thermal Validation and Mapping Services

by Lives International

>> Thermal validation expertise
>> Fast project turnaround
>> Training cost avoidance
>> The newest technology available
>> Quick response
>> Large equipment inventory

As a manufacturer of advanced validation systems for temperature, humidity and pressure analysis, Lives International holds impressive equipment inventory and can quickly respond to service requests involving large amounts of test points.

With over 15 years of experience in the field, Lives International has the expertise required for any thermal validation project.

Our validation engineers are trained on Lives proprietary thermal validation system technology, avoiding training cost and providing a fast project turnaround.

We provide subject matter experts and proprietary technology to perform regulatory compliant thermal validations / mappings of the following equipment (non-exhaustive list):

- Freeze-dryers (Lyophilizers)
- Freezers
- Refrigerators
- Cold rooms
- Warehouses
- Ovens
- Incubators
- Stability chambers
- Autoclaves
- Steam in place (SIP)
- Process line sterilization

GxP

Our Offer:

- Full Thermal Validation / Mapping Services
- On Site Mapping Services
- Off Site Mapping Services

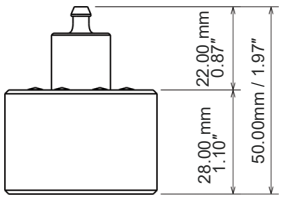
1. Define the scope of the project
2. Make proposal based on requirements
3. Prepare a mapping protocol or use an existing one
4. Carry out the mapping exercise
5. Prepare a mapping report
6. Formulate recommendations based on the final report

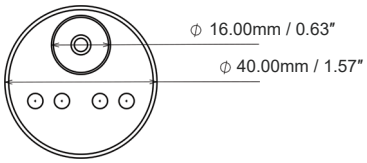
- Rental of Thermal Validation / Mapping Equipment

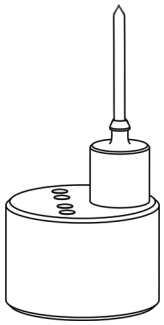
GMP

Standard Temperature Data Logger -90 to +140°C

- + *Collects and stores temperature information in the internal memory*
- + *Recover the data through the docking station using XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*







Sensor type	4 wires PT-100
- rigid	20 mm (0.8")
- sensor size	1.5 x 8 mm (0.06 x 0.315")
- cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- body temp.	-90°C to ±140°C
- sensor temp.	-90°C to +140°C
Accuracy	±0.1°C from -90°C to +140°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	44 g (1.55 oz)
- diameter	40.0 mm (1.57")
- height	50.0 mm (1.97")
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 12 months, based on usage
Docking station	USB to computer 4, 8, 12 and 20 ports available Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 Health & Safety: EN 60950-1/2006

Order Reference:

GMP

Standard Calibration Points

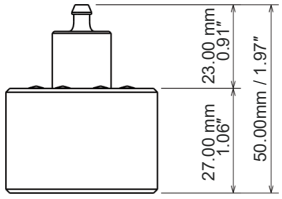
- -80°C
- 0°C
- 140°C

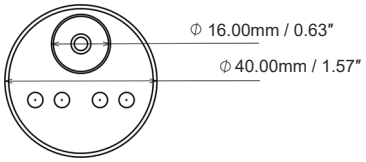
XpertLog software

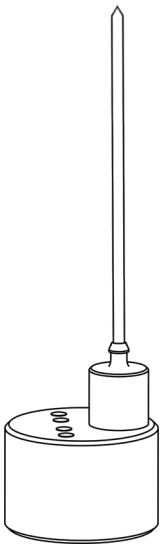
GMPL

Standard Temperature Data Logger -90 to +140°C

- + *Collects and stores temperature information in the internal memory*
- + *Recover the data through the docking station using XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*







Sensor type	4 wires PT-100
- rigid	150 mm (6")
- customized	available
- sensor size	1.5 x 8 mm (0.06 x 0.315")
- cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- body temp.	-90°C to +140°C
- sensor temp.	-90°C to +140°C
Accuracy	±0.1°C from -90°C to +140°C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	50 g (1.76 oz)
- diameter	40.0 mm (1.57")
- height	50.0 mm (1.97")
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 12 months, based on usage
Docking station	USB to computer 4, 8, 12 and 20 ports available Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 Health & Safety: EN 60950-1/2006

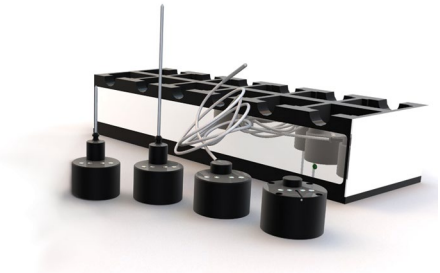
Order Reference:

GMPL

Standard Calibration Points

- -80°C
- 0°C
- 140°C

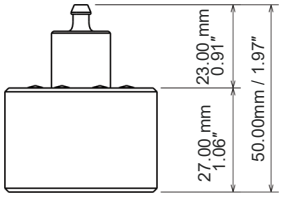
XpertLog software

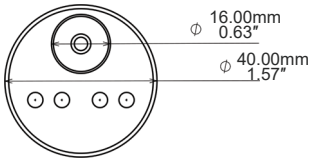


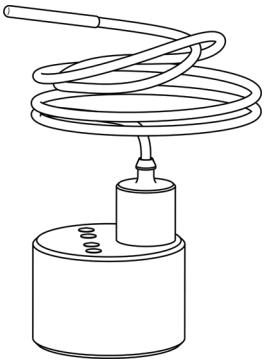
GMPF

Standard Temperature Data Logger -90 to +140°C

- + *Collects and stores temperature information in the internal memory*
- + *Recover the data through the docking station using XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*
- + *Calibration can be performed on site*







Sensor type	4 wires PT-100	
- flexible	480 mm (19") PTFE/SS	
- customized	Up to 5000 mm (195")	
- sensor size	1.5 x 8 mm (0.06 x 0.315")	
- cross section	1.77 mm² (0.0027 inch²)	
Operating Range		
- body temp.	-90°C to +140°C	
- sensor temp.	-200°C to +200°C	
Accuracy	±0.1°C from -90 to +140°C	
Resolution	0.01°C	
Memory capacity	32,000 data points	
Sampling rate	1 sec to 24 hours	
Internal clock Drift	4 sec / 24 h @ + 23 °C	
Mechanical		
- material	Peek 1000 - FDA compliant	
- enclosure	IP-68	
- weight	44 g (1.55 oz)	
- diameter	40.0 mm (1.57")	
- height	50.0 mm (1.97")	
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable	
Battery lifetime	Up to 12 months, based on usage	
Docking station	USB to computer 4, 8, 12 and 20 ports available Programs and reads unlimited number of loggers	
Calibrations	Factory:	Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory
	User:	Closed loop user calibration, using XpertLog® Software
Certification	EMC:	EN 60601-1-2 / 2007
	Health & Safety:	EN 60950-1/2006

Order Reference:

GMPF

Standard Calibration Points

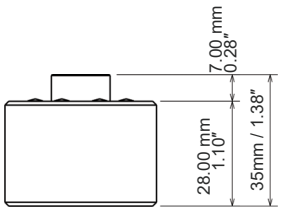
- -80°C
- 0°C
- 140°C

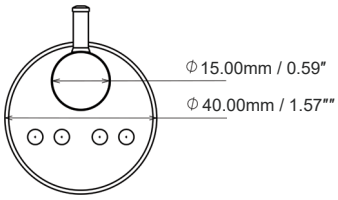
XpertLog software

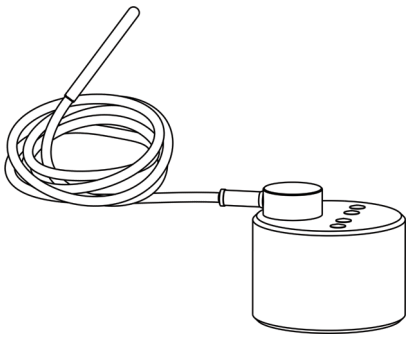
GMPF LP

Standard Temperature Data Logger -90 to +140°C

- + *Collects and stores temperature information in the internal memory*
- + *Recover the data through the docking station using XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*
- + *Calibration can be performed on site*







Sensor type	4 wires PT-100	
- flexible	480 mm (19")	
- customized	Up to 5000 mm (195")	
- sensor size	1.5 x 8 mm (0.06 x 0.315")	
- cross section	1.77 mm² (0.0027 inch²)	
Operating Range		
- body temp.	-90°C to +140°C	
- sensor temp.	-200°C to +200°C	
Accuracy	±0.1°C from -90 to +140°C	
Resolution	0.01°C	
Memory capacity	32,000 data points	
Sampling rate	1 sec to 24 hours	
Internal clock Drift	4 sec / 24 h @ + 23 °C	
Mechanical		
- material	Peek 1000 - FDA compliant	
- enclosure	IP-68	
- weight	44 g (1.55 oz)	
- diameter	40.0 mm (1.57")	
- height	35.0 mm (1.38")	
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable	
Battery lifetime	Up to 12 months, based on usage	
Docking station	USB to computer 4, 8, 12 and 20 ports available Programs and reads unlimited number of loggers	
Calibrations	Factory:	Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory
	User:	Closed loop user calibration, using XpertLog® Software
Certification	EMC:	EN 60601-1-2 / 2007
	Health & Safety:	EN 60950-1/2006

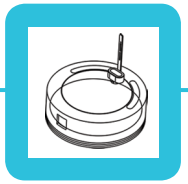
Order Reference:

GMPF-LP

Standard Calibration Points

- -80°C
- 0°C
- 140°C

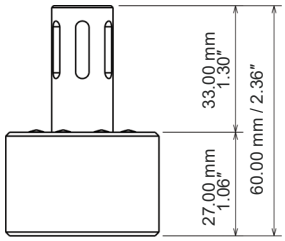
GMP RH

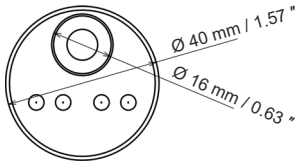


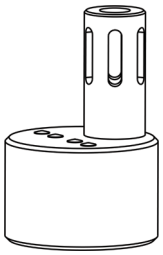
Standard Humidity Data Logger 0-100% RH

FDA 21 CFR Part 11

+ *Collects and stores humidity and temperature information in the internal memory*
+ *Recover the data through the docking station using XpertLog Software*
+ *ITS-90 calibration coefficients are stored in the internal memory*
+ *Complies with FDA 21 CFR Part 11*
+ *Network ready: multiple users, centralized, server database, active directory authentication*







Sensor type	RH: capacitive / Temp: 4 wires PT-100
- rigid	20 mm (0.8")
- temp. sensor size	1.5 x 8 mm (0.06 x 0.315")
- temp. cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- humidity	0 to 100% RH
- body temp.	-40°C to +100°C
- sensor temp.	-40°C to +100°C
Accuracy	±2.0% RH, 0% to 100% non condensing at 20°C to 45°C ±0.1°C from -40°C to +100°C
Resolution	0.01% RH; 0.01°C
Memory capacity	16,000 data points humidity / 16,000 data points temperature
Sampling rate	1 sec to 24 hours
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-51
- weight	43 g (1.52 oz)
- diameter	40.0 mm (1.57")
- height	60.0 mm (2.36")
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 12 months, based on usage
Docking station	USB to computer 4, 8, 12 and 20 ports available Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 Health & Safety: EN 60950-1/2006

Order Reference:

GMP-RH

Standard Calibration Points

- 25° C / 20%RH
- 25° C / 45%RH
- 30° C / 65%RH
- 40° C / 75%RH

Upon special request:

- 45° C / 90%RH

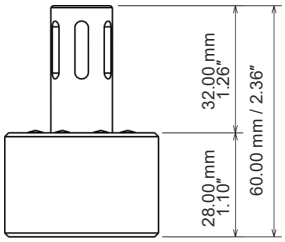
XpertLog software

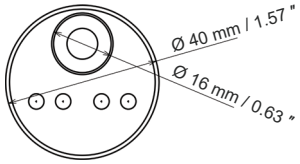
GMPF RH

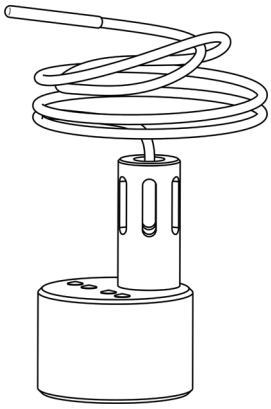
Standard Humidity Data Logger 0-100% RH

FDA 21 CFR Part 11

+ *Collects and stores humidity and temperature information in the internal memory*
+ *Recover the data through the docking station using XpertLog Software*
+ *ITS-90 calibration coefficients are stored in the internal memory*
+ *Complies with FDA 21 CFR Part 11*
+ *Network ready: multiple users, centralized, server database, active directory authentication*







Sensor type	RH: capacitive / Temp: 4 wires PT-100
- flexible	480 mm (19")
- customized	Up to 5000 mm (195")
- temp. sensor size	1.5 x 8 mm (0.06 x 0.315")
- temp. cross section	1.77 mm^2 (0.0027 $inch^2$)
Operating Range	
- humidity	0 to 100% RH
- body temp.	-40°C to +100°C
- sensor temp.	-200°C to +200°C
Accuracy	±2.0% RH, 0% to 100% non condensing at 20°C to 45°C ±0.1°C from -40°C to +100°C
Resolution	0.01% RH; 0.01°C
Memory capacity	16,000 data points humidity / 16,000 data points temperature
Sampling rate	1 sec to 24 hours
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-51
- weight	43 g (1.52 oz)
- diameter	40.0 mm (1.57")
- height	60.0 mm (2.36")
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 12 months, based on usage
Docking station	USB to computer 4, 8, 12 and 20 ports available Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 Health & Safety: EN 60950-1/2006

Order Reference:

GMPF-RH

Standard Calibration Points

- 25° C / 20%RH
- 25° C / 45%RH
- 30° C / 65%RH
- 40° C / 75%RH

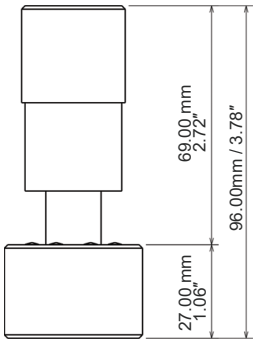
Upon special request:

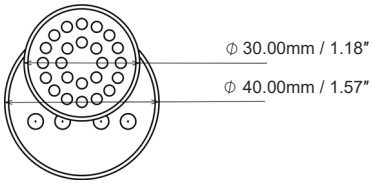
- 45° C / 90%RH

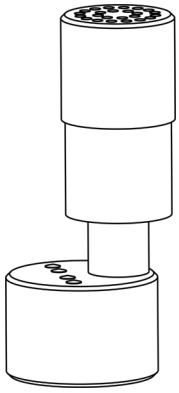
GMP P

Standard Pressure Data Logger 0.01-5.0 BarA

- + *Collects and stores pressure and temperature information in the internal memory*
- + *Recover the data through the docking station using XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*







Sensor type	Absolute pressure / Temp: 4 wires PT-100
- rigid	20 mm (0.8")
- temp. sensor size	1.5 x 8 mm (0.06 x 0.315")
- temp. cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- pressure	0.01 BarA to 5.0 BarA
- body temp.	-40°C to +140°C
- sensor temp.	-40°C to +140°C
Accuracy	±10 mbar ≤ 3 BarA @ 130°C; ±30 mbar > 3 BarA @ 130°C ±20 mbar ≤ 3 BarA @ 23°C; ±50 mbar > 3 BarA @ 23°C ±0.1°C from -40 °C to 140 °C
Resolution	0.1 mbar; 0.01°C
Memory capacity	16,000 data points pressure / 16,000 data points temperature
Sampling rate	1 sec to 24 hours
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	77 g (2.72 oz)
- diameter	40.0 mm (1.57")
- height	96.0 mm (3.78")
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 12 months, based on usage
Docking station	USB to computer 4, 8, 12 and 20 ports available Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 Health & Safety: EN 60950-1/2006

Order Reference:

GMP-P

Standard Calibration Points

hysteresis at 23°C and 130°C:

- 0.05 BarA
- 0.50 BarA
- 1.00 BarA
- 1.50 BarA
- 2.00 BarA
- 2.50 BarA
- 3.00 BarA
- 3.50 BarA
- 4.00 BarA
- 4.50 BarA
- 5.00 BarA

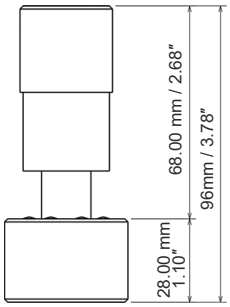
XpertLog software

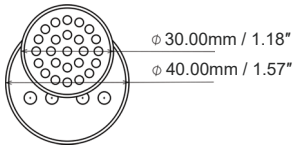
GMPF P

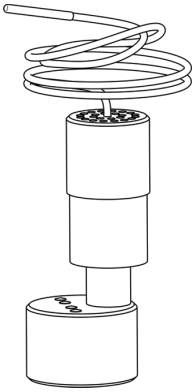
Standard Pressure Data Logger 0.01 to 5.0 BarA

FDA 21 CFR Part 11

+ *Collects and stores pressure and temperature information in the internal memory*
+ *Recover the data through the docking station using XpertLog Software*
+ *ITS-90 coefficients are stored in the internal memory*
+ *Complies with FDA 21 CFR Part 11*
+ *Network ready: multiple users, centralized, server database, active directory authentication*







Sensor type	Absolute pressure / Temp: 4 wires PT-100
- flexible	480 mm (19")
- customized	Up to 5000 mm (195")
- temp. sensor size	1.5 x 8 mm (0.06 x 0.315")
- temp. cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- pressure	0.01 to 5.0 BarA
- body temp.	-40°C to +140°C
- sensor temp.	-200°C to +200°C
Accuracy	±10 mbar ≤ 3 BarA @ 130°C; ±20 mbar ≤ 3 BarA @ 23°C ±30 mbar > 3 BarA @ 130°C; ±50 mbar > 3 BarA @ 23°C ±0.1°C from -40 °C to 140 °C
Resolution	0.1 mbar; 0.01°C
Memory capacity	16,000 data points pressure / 16,000 data points temperature
Sampling rate	1 sec to 24 hours
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	77 g (2.72 oz)
- diameter	40.0 mm (1.57")
- height	96.0 mm (3.78")
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 12 months, based on usage
Docking station	USB to computer 4, 8, 12 and 20 ports available Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 Health & Safety: EN 60950-1/2006

Order Reference:

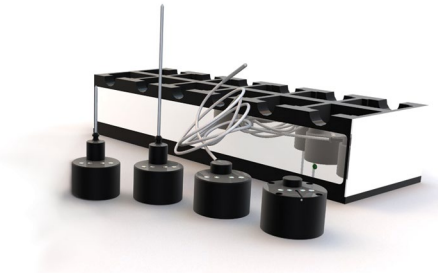
GMPF-P

Standard Calibration Points

hysteresis at 23°C and 130°C:

- 0.05 BarA
- 0.50 BarA
- 1.00 BarA
- 1.50 BarA
- 2.00 BarA
- 2.50 BarA
- 3.00 BarA
- 3.50 BarA
- 4.00 BarA
- 4.50 BarA
- 5.00 BarA

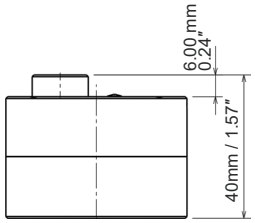
XpertLog software

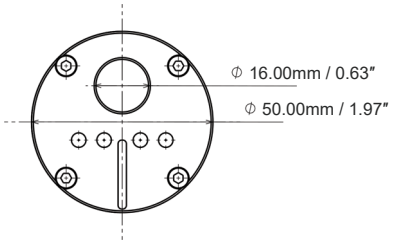


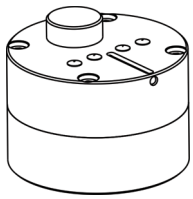
GMP SW

Stopper Washer Temperature Data Logger -40 to +140°C

- + *Collects and stores temperature information in the internal memory*
- + *Recover the data through the docking station using XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*







Sensor type	4 wires PT-100
- rigid	20 mm (0.8")
- sensor size	1.5 x 8 mm (0.06 x 0.315")
- cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- body temp.	-40°C to +140°C
- sensor temp.	-40°C to +140°C
Accuracy	±0.1°C from -40 °C to +140 °C
Resolution	0.01°C
Memory capacity	32,000 data points
Sampling rate	1 sec to 24 hours
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-68
- weight	91 g (3.21 oz)
- diameter	50.0 mm (1.97")
- height	40.0 mm (1.57")
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 12 months, based on usage
Docking station	USB to computer 4, 8, 12 and 20 ports available Programs and reads unlimited number of loggers
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 Health & Safety: EN 60950-1/2006

Order Reference:

GMP_SW

Standard Calibration Points

- -40°C
- 0°C
- 140°C

XpertLog software

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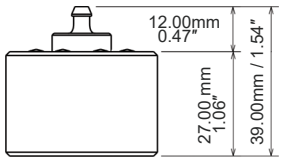
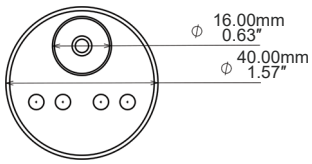
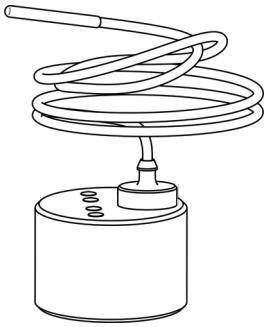
GDPF NBF

Standard Temperature Data Logger -40 to +85°C

- + *Collects and stores temperature information in the internal memory*
- + *Recover the data through the docking station using XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*
- + *Calibration can be performed on site*







Sensor type	4 wires PT-100	
- flexible	480 mm (19") PTFE/SS	
- customized	Up to 5000 mm (195")	
- sensor size	1.5 x 8 mm (0.06 x 0.315")	
- cross section	1.77 mm² (0.0027 inch²)	
Operating Range		
- body temp.	-40°C to +85°C	
- sensor temp.	-40°C to +85°C	
Accuracy	±0.1°C from -40°C to +85°C	
Resolution	0.01 °C	
Memory capacity	32,000 data points	
Sampling rate	1 sec to 24 hours	
Internal clock Drift	4 sec / 24 h @ + 23 °C	
Mechanical		
- material	POM-C; FDA compliant	
- enclosure	IP-67	
- weight	44 g (1.55 oz)	
- diameter	40.0 mm (1.57")	
- height	50.0 mm (1.97")	
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable	
Battery lifetime	Up to 12 months, based on usage	
Docking station	USB to computer 4, 8, 12 and 20 ports available Programs and reads unlimited number of loggers	
Calibrations	Factory:	Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory
	User:	Closed loop user calibration, using XpertLog® Software
Certification	EMC:	EN 60601-1-2 / 2007
	Health & Safety:	EN 60950-1/2006

Order Reference:

GDPF_NBF

Standard Calibration Points

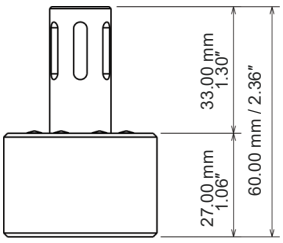
- -40°C
- 0°C
- 85°C

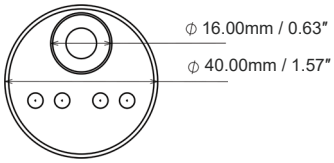
XpertLog software

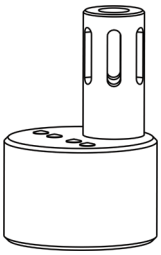
GDP RH

Standard Humidity Data Logger 15 to 95% RH

- + *Collects and stores humidity and temperature information in the internal memory*
- + *Recover the data through the docking station using XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*







Sensor type	RH: capacitive / Temp: 4 wires PT-100
- fixed	20 mm (0.8")
- temp. sensor size	1.5 x 8 mm (0.06 x 0.315")
- temp. cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- humidity	15% to 95% RH
- body temp.	-40°C to +85°C
- sensor temp.	-40°C to +85°C
Accuracy	±2.0% RH @ +23°C (15-60% RH) ±3.0%RH @ +23°C (60-95% RH) ±0.1°C from -40 °C to 85 °C
Resolution	0.01% RH
Memory capacity	16,000 data points RH / 16,000 data points temperature
Sampling rate	1 sec to 24 hours
Internal clock Drift	4 sec / 24 h @ + 23 °C
Mechanical	
- material	POM-C; FDA compliant
- enclosure	IP-51
- weight	45 g (1.58 oz)
- diameter	40.0 mm (1.57")
- height	60.0 mm (2.36")
Power	1 x Lithium battery, 0.35 g Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 12 months, based on usage
Docking station	USB to computer 4, 8, 12 and 20 ports available
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 Health & Safety: EN 60950-1/2006

Order Reference:

GDP-RH

Standard Calibration Points

- 25° C / 20%RH
- 25° C / 45%RH
- 25° C / 65%RH
- 25° C / 75%RH

Upon special request:

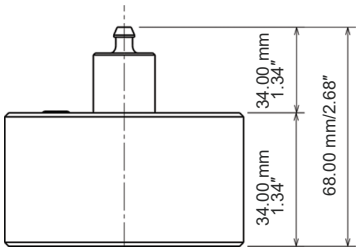
- 25° C / 90%RH

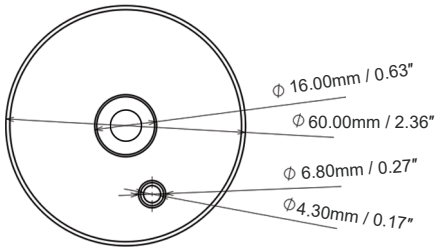
XpertLog software

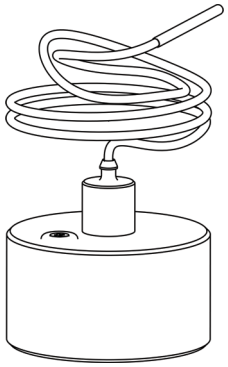
LMS T

Real Time Temperature Data Logger -40 to +85°C

- *Collects and stores temperature information in the internal memory*
- *Recover the data through the docking station using XpertLog Software*
- *ITS-90 calibration coefficients are stored in the internal memory*
- *Complies with FDA 21 CFR Part 11*
- *Network ready: multiple users, centralized, server database, active directory authentication*
- *Calibration can be performed on site*







Sensor type	4 wires PT-100
- flexible	1000 mm (39")
- customized	Up to 3000 mm (118")
- sensor size	1.5 x 8 mm (0.06 x 0.315")
- cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- body temp.	-40°C to +85°C
- sensor temp.	-200°C to +200°C
Accuracy	±0.1°C from -40 °C to 85 °C
Resolution	0.01°C
Memory capacity	32,000 data points temperature
Sampling rate	1 sec to 24 hours
Internal clock Drift	4 sec / 24 h @ + 23 °C
Logger update rate	5 sec to 24 h - user configurable
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-51
- weight	95 g (3.35 oz)
- diameter	60.0 mm (2.36")
- height	44.0 mm (1.73")
Power	External and internal
	2 x Lithium batteries, 0.35 g/each Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Wireless range	121 m (400')
Radio frequency	2.4 Ghz ISM band
Access point	USB to computer
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory
	User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007
	RF: EN 300440-2 v1.3.1 (2009-03)
	Health & Safety: EN 60950-1/2006

Order Reference:

LMS_T

Standard Calibration Points

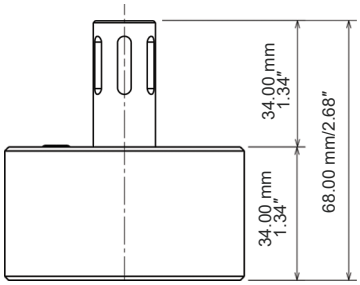
- -40°C
- 0°C
- 85°C

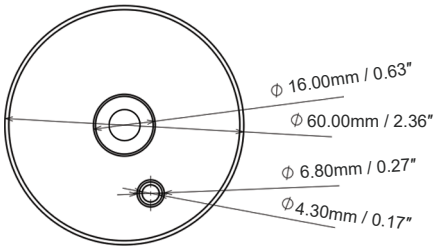
XpertLog software

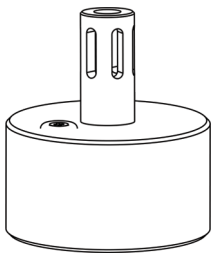
LMS RH

Real Time Humidity Data Logger 15 to 95% RH

- + *Collects and stores humidity and temperature information in the internal memory*
- + *Recover the data through the docking station using XpertLog Software*
- + *ITS-90 calibration coefficients are stored in the internal memory*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database, active directory authentication*







Sensor type	RH: capacitive / Temp: 4 wires PT-100
- rigid	20 mm (0.8")
- temp. sensor size	1.5 x 8 mm (0.06 x 0.315")
- temp. cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- humidity	15% to 95% RH
- body temp.	-40°C to +85°C
- sensor temp.	-40°C to +85°C
Accuracy	±2.0% RH @ +23°C (15-60% RH) ±3.0% RH @ +23°C (60-95% RH) ±0.1°C from -40°C to +85°C
Resolution	0.01% RH; 0.01°C
Memory capacity	16,000 data points humidity / 16,000 data points temperature
Sampling rate	1 sec to 24 hours
Internal clock Drift	4 sec / 24 h @ + 23 °C
Logger update rate	5 sec to 24 h - user configurable
Mechanical	
- material	Peek 1000 - FDA compliant
- enclosure	IP-51
- weight	93 g (3.28 oz)
- diameter	60.0 mm (2.36")
- height	68.0 mm (2.68")
Power	External and internal 2 x Lithium batteries, 0.35 g/each Lithium content classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Battery lifetime	Up to 6 months, based on usage
Wireless range	121 m (400')
Radio frequency	2.4 Ghz ISM band
Access point	USB to computer
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory User: Closed loop user calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health & Safety: EN 60950-1/2006

Order Reference:

LMS_RH

Standard Calibration Points

- **25° C / 20%RH**
- **25° C / 45%RH**
- **25° C / 65%RH**
- **25° C / 75%RH**

Upon special request:

- **25° C / 90%RH**

XpertLog software

XpertVal

Thermocouple systems

- + *Conventional Tc's based system for thermal mapping and validation*
- + *60 (up to 120) channels simultaneously*
- + *Rugged data logger used in industrial harsh environment, real time data display*
- + *High accuracy Tc after pre-calibration (±0.2°C)*
- + *Complies with FDA 21 CFR Part 11*
- + *Network ready: multiple users, centralized, server database*

Sensors	Thermocouples
Sensor length	- standard: 10 m (33 feet) - customizable: custom length
Sensor type	All type of thermocouples, most used : T, J, K
Temperature range	- teflon: -200°C to +200°C - kapton: -200°C to +400°C - others: up to +1200°C
Accuracy	±0.2°C after pre-calibration
Memory capacity	Internal memory: 20 Mb Backup memory: USB storage device compatible
Tc Tip	Teflon: teflon tip to prevent moisture on the wire Kapton: no tip
Sampling rate	*120 channels - 5 sec* *60 channels - 5 sec* *20 channels - 2 sec* *12 channels - 1 sec*
Software	21 CFR Part 11
Module	Universal input module: 4 - 20 mA / 0-10 V / RTD (PT-100 2, 3 or 4 wires), thermocouples
Communication	USB XpertVal to PC LAN 2.4 GHz, 802.11b/g/n
Close loop calibration	Required when using thermocouples for thermal validation System uses temperature block and reference probe, software controlled reports generated automatically by the software
Reference probes	RTD, Fluke 1502, Lives XpertRTD
Dry blocks	Lives : PTC 125 : -90°C to +125°C / RTC 157 : -45°C to +155°C / RTC 159 : -100°C to +155°C RTC 700 : +23°C to +700°C Fluke 9190: -90°C to +140°C; Fluke 9170: -45°C to +140°C; Fluke 9172: +35°C to +425°C
Calibrations	Factory: NIST / COFRAC
Users	Close loop calibration using XpertLog® software

Order Reference:

Lives XpertVal 60

XpertVal® Data Logger

Reference Probe Fluke 1502

Ametek Dry Blocks

Fluke Dry Blocks

Thermocouples

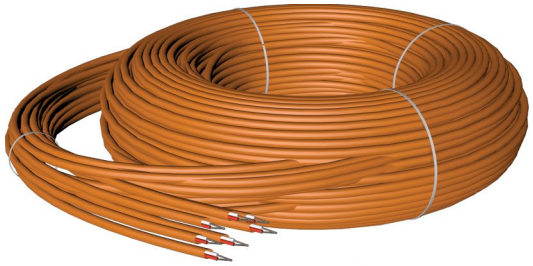
Pressure Transducer

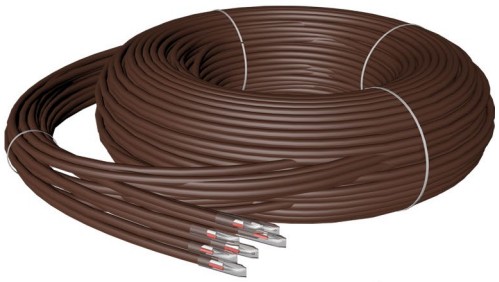
Wireless Module

Reference Probe Xpert RTD

Fluke Oil Baths

Thermocouples





T and J type thermocouples for use with thermocouple systems like XpertVal®.

FDA 21 CFR Part 11

Name	Reference	Max. Temp.	Description
Bundle of 20 premium Type T thermocouples, 24 gauge, 7 stranded	T-24-TT-7S-20-10	200°C	Teflon coated, 32 feet (10 m) length, harnessed, numbered and labeled. One inch Teflon coated welded tip
Bundle of 20 premium Type T thermocouples, 24 gauge	T-24-TT-20-10	200 °C	Teflon coated, 32 feet (10 m) length, harnessed, numbered and labeled. One inch Teflon coated welded tip
Roll of premium Type T thermocouples, 24 gauge	RL-24-TT-1000	200 °C	Teflon coated, 1000 feet (300 m) length
Roll of premium Type T thermocouples, 24 gauge	RL-24-KK-1000	350 °C	Kapton coated, 1000 feet (300 m) length
Bundle of 20 premium Type T 24 gauge, kapton coated	T-24-KK-20-10	350 °C	Kapton coated, 32 feet(10m) lenght, harnessed, numbered and labeled
Bundle of 20 premium Type J thermocouples, 24 gauge	J-24-KK-20-10	400 °C	Kapton coated, 32 feet (10 m) length, harnessed, numbered and labeled, each thermocouple with welded tip
Bundle of 20 premium Type T thermocouples, 24 gauge (needle tip)	NT-24-TT-20-10	200 °C	Teflon coated, 32 feet (10m) length, harnessed, numbered and labeled, each thermocouple with needle tip
CUSTOM: Bundle of xx premium Type T/J thermocouples, teflon / kapton coated	T-24-TT-xx-yy T-24-KK-xx-yy J-24-KK-xx-yy	200 °C 350 °C 400 °C	Custom teflon / kapton coated, yy m length, harnessed, numbered and labeled, each thermocouple with welded tip

For best performance we recommend XpertVal® with wireless capability.

Xpert RTD

IRTD Display Interface Unit

Stand alone display and interface between smart probes and Lives International Systems

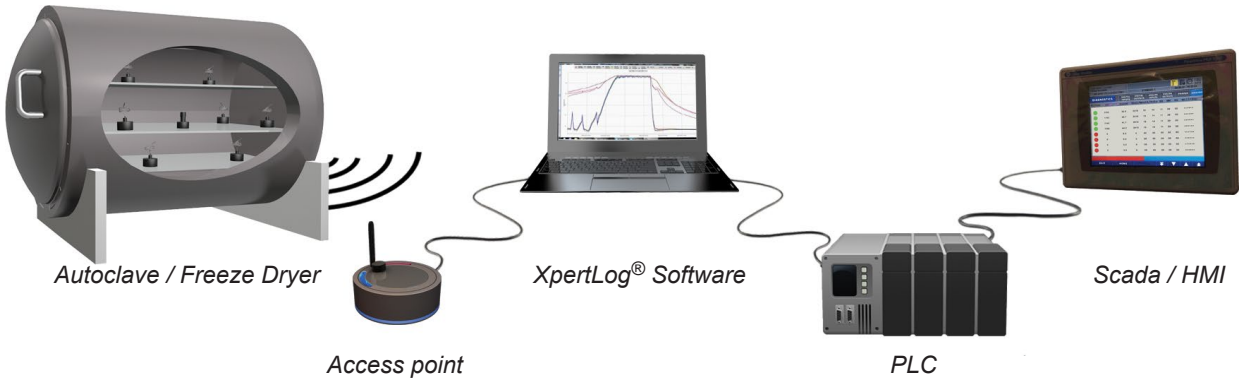
- user selectable engineering units display: °C, F, K and Ohm
- calculates and displays the minimum and maximum temperature values
- USB connection to XpertLog® systems
- radio frequency signal transmission to XpertLog® systems
- radio frequency transmission: 2.4 GHz
- wireless range: 400 feet (121m) line of sight
- automatic address detection of the smart probes
- weight: 0.66 lb. (300 gr.)
- RJ14 connection to Smart Probe / connectable to Validator
- easy-to-read display with perfect overview of the actual status
- state of the art design
- power supply: 12 V DC

Order Reference:

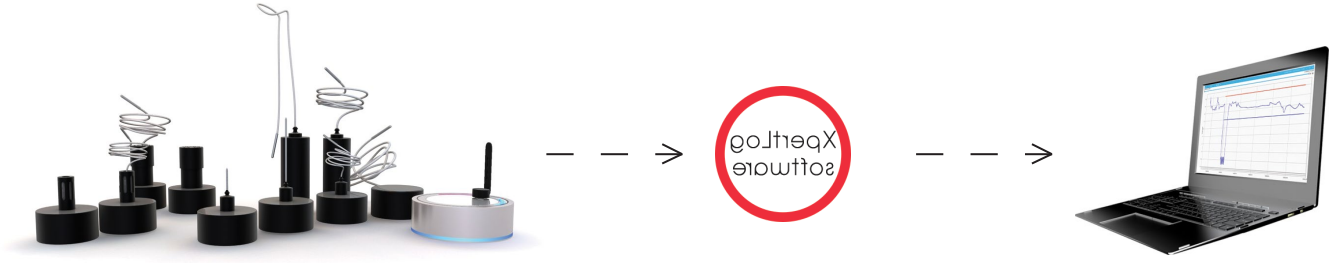
Xpert-RTD

XpertLog SCADA

Interface Real Time Data Loggers with SCADA/HMI

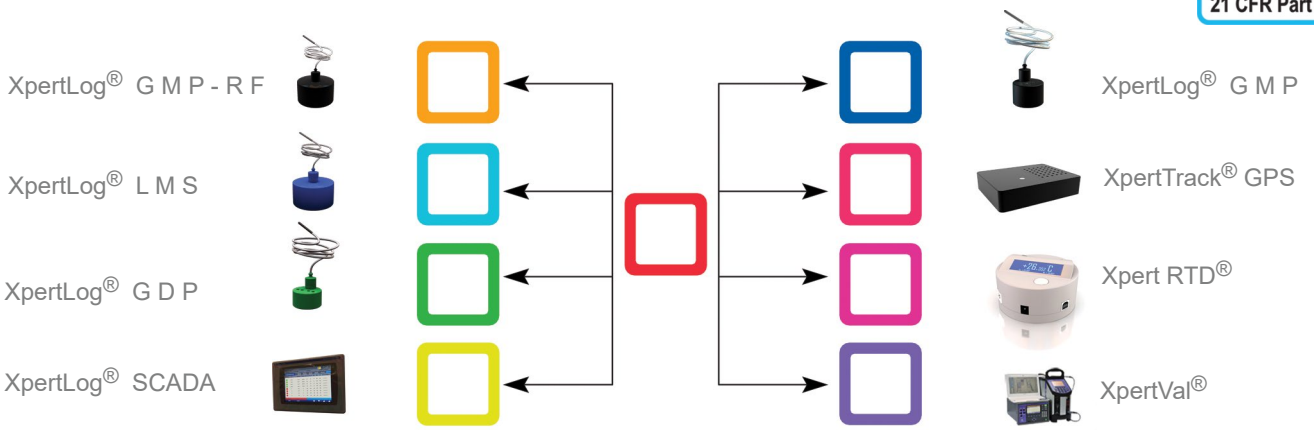


Purpose:	Interface XpertLog® real time data loggers with the SCADA/HMI of any equipment Display XpertLog® real time data on SCADA / HMI
Applications:	Interface SCADA/HMI of autoclaves, freeze dryers, etc. with XpertLog® real time data loggers inside the equipment. Can be used to control the equipment based on Real Time Wireless Data Loggers*
Scope:	Help users to meet FDA requirements with regards to Continued Process Verification Gain ongoing assurance during routine production that the process remains in a state of control Minimize time needed for parametric release of a sterile load after sterilization cycle Display real time behavior of the equipment using a third party system - XpertLog® Detect real time anomalies of product probes and allow users to take action
Functionality:	Collect temperatures/pressures from XpertLog® real time data loggers and display simultaneously with the product probes on the SCADA/HMI * applies under conditions, call to discuss application and implementation
Minimum recommended acquisition interval	10 sec
Maximum number of loggers	20
Accuracy	
- temperature	± 0.1°C
- pressure	± 10 mbar @ 2 bar abs
Resolution	0.01°C; 0.1 mbar
Data integrity	21 CFR Part 11 compliant
PLC compatibility	Any PLC
Measurement range	
- temperature	-60 to 140°C
- pressure	0.01 to 5 bar abs.
Memory capacity	32,000 data points -16,000 p / 16,000 temp.
Battery lifetime	Up to 6 months, based on usage
Internal clock drift	4 sec / 24 h @ +23°C
Access Point	USB connection
Material	Peek 1000 - FDA compliant
Radio frequency	2.4 GHz ISM band
Enclosure	IP-68
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients stored in the internal memory User: Close loop calibration, using XpertLog® Software
Certification	EMC: EN 60601-1-2 / 2007 RF: EN 300440-2 v1.3.1 (2009-03) Health Safety: EN 60950-1/2006



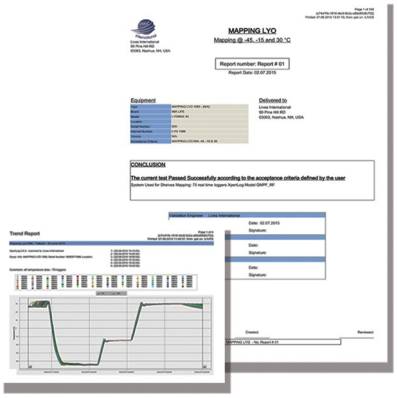
XpertLog Software

Connect All Your Equipment To One Software



Features:

- **create reliable reports** - all calculations are performed after the data is downloaded from the loggers
- **split the raw data** stored inside loggers during several tests in as many tests as performed
- **create**:
  - raw data reports and F value reports
  - trend reports
  - statistic reports
  - image reports
  - steam saturation reports
  - calibration certificate report
  - 3D reports
- **assign verifications** at the performed tests
- **create custom calculations** using the “Virtual Channels”
- **add comments** in the header of the reports
- centralized database, active directory authentication



USB communication with:
- data loggers
- temperature blocks
- reference probes

4 access levels:
- administrator
- user
- reporter
- reviewer

Close loop calibration:
- calibration / verification of the sensors before running a test
- verification of the loggers after running a test
- fully automated calibration - the calibration equipment controlled by the software

Order Reference:

XpertLogAll

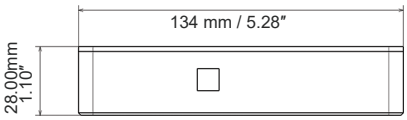
- use of templates to create final reports
- create a library of users / organizations
- create acceptance criteria templates
- create a library of equipments
- generate final reports
- all the reports generated by the software merged in one single report
- table of contents
- conclusion of the report in the first page
- acceptance criteria
- summary of the results
- 3D view
- trends
- steam saturation
- images
- raw data
- calibration / verification report
- calibration certificates
- advanced acceptance criteria module

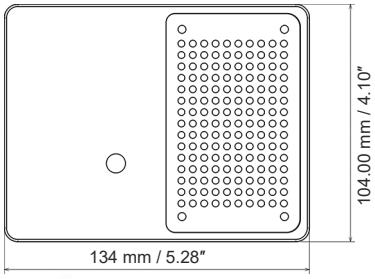
XperTrack

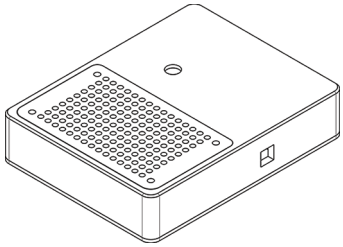
Real Time GPS Tracker -30 to +60°C

Remotely control your cold chain shipments
Prevents drug shortage
Allows you to control shipments integrity

- + *Collects and stores temperature, position, light exposure and shocks data in the internal memory*
- + *Alarms are triggered when your products exceed the allowed temperature, light exposure and shocks during shipments*
- + *Geo-fencing (user definable)*
- + *Instantaneously detect if your shipment has been tampered with display the current position and temperature of your container*
- + *Complies with FDA 21 CFR Part 11*



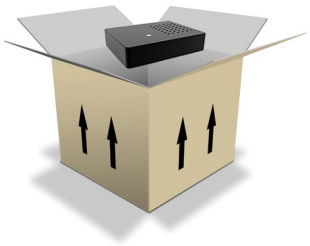




Sensor type	4 wires PT-100 / acceleration / light
- flexible	480 mm (19")
- customized	Up to 5000 mm (195")
- sensor size	1.5 x 8 mm (0.06 x 0.315")
- cross section	1.77 mm² (0.0027 inch²)
Operating Range	
- standard	-30°C to +60°C
- extended	-200°C to +200°C (sensor only)
Accuracy	±0.1°C
Sensitivity	0.01°C
Memory capacity	128,000 data points
Data sampling rate	
- temperature/position	30 sec to 24 hours - user configurable
- shocks	Instantaneous on event
Data update rate	20 min to 24 h - user configurable (typically 6 hours)
Mechanical	
- material	Ertacetal - FDA compliant
- enclosure	IP-30
- weight	375 g (13.23 oz)
- size (L/l/h)	134/104/28 mm (5.28/4.10/1.10")
Power	2 x Lithium rechargeable batteries, classified UN3091 under IATA DGR section 3.9.2.6 compliant with ICAO/IATA packing instruction 970 user replaceable
Antenna	Internal
Calibrations	Factory: Traceable NIST / COFRAC - ITS-90 coefficients reside in the internal memory

Order Reference:

XperTrack



PTC Dry Blocks

The PTC Series matches lab features like a wide temperature range, high accuracy, stability, and speed. The PTC Series features an active dual zone temperature control which provides excellent temperature homogeneity in the well.

This PTC series is included in the close loop calibration feature provided by Xpertlog software.

Name	References	Range	Stability	Delivered with	Ref. probe
PTC-125A Ultra Cooler Dry Block	PTC-125A_Lives_230A_NON_F PTC-125A_Lives_115B_NON_F	-90 to 125 °C -130 to 257 °F	± 0.03 °C		- Internal
PTC-125C Ultra Cooler Dry Block	PTC_125C_Lives_230A_NON_R_126394-901_HS_CT PTC_125C_Lives_115B_NON_R_126394-901_HS_CT	-90 to 125 °C -130 to 257 °F	± 0.03 °C	- Accredited System Calibration	- External - Internal
PTC-155A Cooler Dry Block	PTC-155A_Lives230A_NON_F_CT PTC-155A_Lives115B_NON_F_CT	-25 to 155 °C -13 to 311°F	± 0.01 °C		- Internal
PTC-155C Cooler Dry Block	PTC-155C_Lives230A_NON_R_126394-901_HS_CT PTC-155C_Lives115B_NON_R_126394-901_HS_CT	-25 to 155 °C -13 to 311°F	± 0.01 °C	- Accredited System Calibration	- External - Internal
PTC-350A Dry Block	PTC-350A_Lives_230A_NON_F PTC-350A_Lives_115B_NON_F	33 to 350 °C 91 to 662 °F	± 0.02 °C		- Internal
PTC-350C Dry Block	PTC-350C_Lives_230A_NON_R2_915_HS_CT PTC-350C_Lives_115B_NON_R2_915_HS_CT	33 to 350 °C 91 to 662 °F	± 0.02 °C	- Accredited System Calibration	- External - Internal
PTC-425A Dry Block	PTC-425A_Lives_230_A_NON_F_CT PTC-425A_Lives_115_B_NON_F_CT	33 to 425 °C 91 to 797 °F	± 0.02 °C		- Internal
PTC-425C Dry Block	PTC-425C_Lives_230_A_NON_R2_915_HS_CT PTC-425C_Lives_115_B_NON_R2_915_HS_CT	33 to 425 °C 91 to 797 °F	± 0.02 °C	- Accredited System Calibration	- External - Internal

All PTC dry blocks are delivered with carrying case with trolley. Insert is not included.

RTC Dry Blocks

Lives International includes the most advanced and accurate temperature calibrators from Ametek in our thermal validation system. Xpertlog software controls the temperature blocks and reference probes during close loop calibrations. The calibration report is automatically generated after a calibration, contains the Id of the blocks and reference probes.

The RTC Series also feature active dual - and triple - zone temperature control which provides excellent temperature homogeneity in the well.

Name	Reference	Range	Stability	Delivered with	Ref. probe
RTC-156A Dual zone heating dry block	RTC-156A_Lives_230A_NON_CT RTC-156A_Lives_115B_NON_CT	-30 to 155 °C -22 to 311 °F	± 0.005 °C		- Internal
RTC-156C Dual zone heating dry block	RTC-156C_Lives_230A_NON_DLC_R2_915_HS_CT RTC-156C_Lives_115B_NON_DLC_R2_915_HS_CT	-30 to 155 °C -22 to 311 °F	± 0.005 °C	- Accredited System Calibration	- External (-60°C-160°C, DLC sensor STS200A915) & - Internal
RTC-157A Dual zone heating dry block	RTC-157A_Lives_230A_NON_CT RTC-157A_Lives_115B_NON_CT	-45 to 155 °C -49 to 311°F	± 0.005 °C		- Internal
RTC-157C Dual zone heating dry block	RTC-157C_Lives_230A_NON_DLC_R2_915_HS_CT RTC-157C_Lives_115B_NON_DLC_R2_915_HS_CT	-45 to 155 °C -49 to 311°F	± 0.005 °C	- Accredited System Calibration	- External (-60°C-160°C, DLC sensor STS200A915) & - Internal
RTC-158A Dual zone heating dry block & mini oil bath	RTC-158A_Lives_230A_MXX_BAT_F_CT RTC-158A_Lives_115B_MXX_BAT_F_CT	-22 to 155 °C -8 to 311°F	± 0.02 °C		- Internal
RTC-158C Dual zone heating dry block	RTC-158C_Lives_230A_MXX_BAT_DLC_R2_916_HS_CT RTC-158C_Lives_115B_MXX_BAT_DLC_R2_916_HS_CT	-22 to 155 °C -8 to 311°F	± 0.01 °C	- Accredited System Calibration	- External (-60°C-160°C, DLC sensor STS200A926) & - Internal
RTC-159A Ultra Low Cooler Dry Block	RTC-159A_Lives_230A_NON_F RTC-159A_Lives_115B_NON_F	-100 to 155 °C -148 to 311°F	± 0.03 °C		- Internal
RTC-159C Ultra Low Cooler Dry Block	RTC-159C_Lives_230A_NON_DLC_R2_917_HS RTC-159C_Lives_115B_NON_DLC_R2_917_HS	-100 to 155 °C -148 to 311°F	± 0.03 °C	- Accredited System Calibration	- External (-100°C-160°C, DLC sensor STS200A917) & - Internal

All RTC dry blocks are delivered with carrying case with trolley. Insert is not included.
All C models (ex RTC-157C) include an internal ref. probe and an external with 90° angled and 4 mm diameter.

Temperature Calibration Products

Oil baths

Lives International provides temperature calibration and oil bath under OEM agreement with Fluke.They offer unsurpassed stability and uniformity, a large working volume, and flexibility for performing thermometer calibration or calibrating a variety of temperature sensors. Our Calibration temperature baths include: compact,deep-well, hot, cold, resistor, and custom baths.

Name	Reference	Temperature range	Stability	Weight
Hart Oil Bath	7320	-20 °C to 150 °C (-4 °F to 302 °F)	± 0.005 °C	35.4 kg
Hart Oil Bath	7340	-40 °C to 150 °C (-40 °F to 302 °F)	± 0.005 °C	35.4 kg
Hart Oil Bath	7380	-80 °C to 100 °C (-112 °F to 212 °F)	± 0.006 °C	52 kg

Dry blocks

Dry-block calibrators (dry-wells) and Micro-Baths are precision temperature sources that provide stable and uniform temperature environments for calibrating temperature sensors, thermometers, and thermal switches.We offer a variety of dry-block calibrators and Micro-Baths with high accuracy, wide temperature range,speed to temperature, interchangeable inserts, and the ability to read reference probes, thermal switches, and 4-20 mA output from temperature transmitters.

Name	Reference	Temperature range	Stability	Weight
Hart Dry Block 9170	9170-DW-156	-45 °C to 140 °C (–49 °F to 284 °F)	± 0.005 °C	15 kg
Hart Dry Block	9170-R-156	-45 °C to 140 °C (–49 °F to 284 °F)	± 0.005 °C	15 kg
Hart Dry Block 9172	9172-DW-156	35 °C to 425 °C (95 °F to 797 °F)	± 0.005 °C to 0.01 °C	13.2 kg
Hart Dry Block	9172-R-156	35 °C to 425 °C (95 °F to 797 °F)	± 0.005 °C to 0.01 °C	13.2 kg
Hart Dry Block	9190-DW-156	-95 °C to 140 °C (–139 °F to 284 °F)	± 0.015 °C	16 kg
Hart Dry Block	9190-P-156	-95 °C to 140 °C(–139 °F to 284 °F)	± 0.015 °C	16 kg

Accessories

FDA 21 CFR Part 11

Feedthrough

Feedthrough assembly to pass 20/30 thermocouples into autoclaves

Order Reference: **PRSET20/ PRSET30**

Shelf for Loggers Calibration

Shelf for data loggers calibration in dry blocks

Order Reference: **DLS**

Y/DN50

Stainless steel Y adapter.
Connects:
- 1 port to the autoclave
- 1 port to a feedthrough
- 1 port to the pressure transducer

Order Reference: **Y/DN50**

Pressure Transducer

EN285 compliant triclamp pressure transducer to connect on the autoclave during validations

Order Reference: **PBMH25**

Dry Block Insert

Specific insert for validation in dry blocks.
Insert 20 Loggers/Tc & one reference probe

Order Reference: **AL, BR**

Shelf Mapping Cap

Temperature transfer adapter from the shelf to the logger's sensor during freeze dryers mappings

Order Reference: **LyoPuck_RF, LyoPuck_ST**

Fedegari Adapter

Adapter for Fedegari autoclave to feedthrough

Order Reference: **AD-PREST20**

Pliers

Tools to open loggers for battery replacemenet

Order Reference: **PL-ST, PL-RF, PL-Bio, PL-LMS**

Bracket

Mounting bracket for data loggers

Order Reference: **BR-RF, BR-ST**

Repeater

Repeater to extend the coverage area of the Access Point

Order Reference: **REX**

GMP Pipe

Adapter to insert data logger's sensor inside pipes

Order Reference: **GMP_1.5_PIPE**
GMP_2_PIPE

XpertVal Module

Module for conecting thermocouples to XpertVal data logger

Order Reference: **2638A-100**

Activation Point

Activates GMP RF and LMS wireless dataloggers

Order Reference: **ActP**

Lyo Caterpillar

Allows to measure product temperature inside a freeze-dryer (lyophilizer) and eliminate the influence from data logger

Order Reference: **VCX-XXR-XXml**

Sensor Holder

Cap with holder for flexible temperature sensor inside the vial
xx = vial neck diameter (mm)
yyy = sensor support length

Order Reference: **CSS-xx-yyy**

Twin Barell

Cap holders for product measurement inside vials

Order Reference: **TW BC_XXXml**

Applications

	Autoclaves	Incubators	Ovens to 140 °C	Steam in place	Stability chambers	Microbial detection systems	Warehouses	Lyophilizers
GMP RF								
GMPL RF								
GMPF RF								
GMPF LP RF								
GMP Custom RF								
GMP Bio RF								
GMPF 10R/SS/A								
GMPF 30R								
GMPF Mini RF								
GMPF CO_2 RF								
GMP RH RF								
GMPF RH RF								
GMP P RF								
GMPF P RF								
GMP								
GMPL								
GMPF								
GMPF LP								
GMP SW								
GMP RH								
GMPF RH								
GMP P								
GMPF P								
GDPF NBF								
GDP RH								
LMS T								

FDA 21 CFR Part 11

Freezers -40°C	Ultra low freezers -80°C	Refrigerators	Cold rooms	Cold Chain Shipments	Package integrity	Remote monitoring	Logistics	Stopper washers
✓	✓	✓	✓	✓	—	—	✓	—
✓	✓	✓	✓	✓	—	—	✓	—
✓	✓	✓	✓	✓	—	—	✓	—
✓	✓	✓	✓	✓	—	—	✓	—
✓	✓	✓	✓	✓	—	—	✓	—
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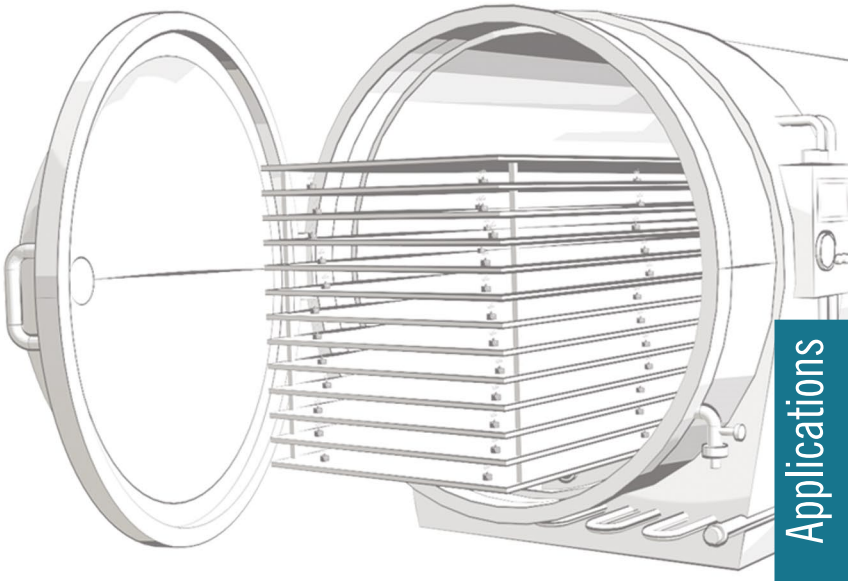

Lives International®

Orders

For quotes and orders search our distributors and offices by visiting
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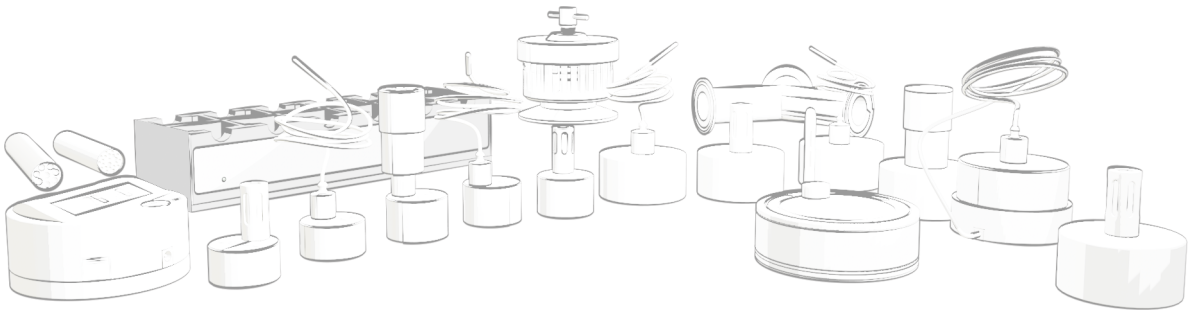
call +1 (603) 821-1898
or send us an email at
info@lives-international.com

WWW.LIVES-INTERNATIONAL.COM



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