

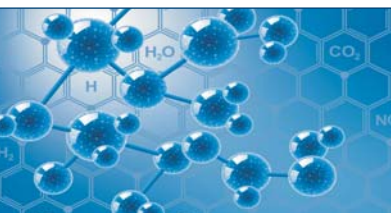
DataCollectorXP-R

Multi-Channel Data Logger



DCXP-R

Sciences



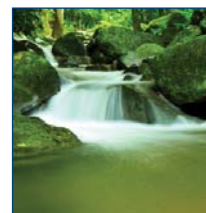
Research



Industries



Eco



HVAC



DataCollectorXP-R

Data Logger Series



The DCXP16-R with special female connectors is compatible with the Driesen+Kern "rugged" data loggers from the DK3xx- and DK6xx- Series

Two DCXP-R models are available:
The DCXP8-R comes with 8 and the DCXP16-R with 16 input connectors which are arranged on the top of the device and allow applying a variety of sensor signals. They are suitable for standard signals (0..10V/4..20mA), for PT/100/PT1000 sensors, thermocouples and extra low voltage signals, e. g. from radiation sensors or strain gauges.

Comprehensive Range of Probes

Driesen+Kern offers a variety of probes such as PT100/PT1000 temperature probes, strain gauges, combined humidity and temperature sensors as well as transducers for pressure, force, radiation and air velocity for connection with the DataCollectorXP-R. In addition, it is possible to obtain standardised analog output signals 0-1V/5V/10V/4-20mA and pulse signals using the DKC-I/DKC-U connection cables. Combined humidity/temperature probes require only one input connector for their digital signal although providing two measured variables which gives you the opportunity to use up to 32 combined probes from our range with the DCXP-16-R.

Universal Inputs

DataCollectorXP-R by Driesen+Kern GmbH are multi-channel data loggers designed for long-term measurements. They combine flexible connectivity with high measurement resolution and accuracy making them the right solution for a wide range of applications. The low current consumption allows batter-powered long-term measurements for several years.

Applications

- Environmental Studies
- Building restoration
- Research and Development
- Process Optimization
- Monitoring of Environmental Parameters
- Quality Assurance

Features

2 available models:
DCXP8-R with 8 inputs and
DCXP16-R with 16 inputs

Freely programmable analog inputs for voltage, current or resistance as well as 1x alarm output and 1x trigger input

Inputs can be programmed for PT100/PT1000 sensors, thermocouples and thermistors as well as configured for combined digital humidity and temperature sensors by Driesen+Kern

Low current consumption allows battery-powered operation for several years, power supply via USB

24 bit measurement resolution

Sampling interval: 2 Hz - 8 Hz, 1 s - 24 h

Internal memory for 4 million readings
Up to 500 million readings w. optional SD memory card

Easy plug-in connection for sensors

Power output for external probes and sensors

Anlog signal conversion to linear units and readings on LCD
Comprehensive formula editor and functions available in InfraLog software

USB port (type-B micro)

Non-volatile flash memory
(keeps data safe in case of battery fail)

Specifications

General

Operating environm.: -20...+70°C
Power supply (internal): 4xAA- alkaline
Power supply(external): power supply (included)
Battery life: 2 years @ 1 min
 1/2 year @ 10 s
 50 days @ 1 s
Recording interval: 1 s...24 hrs
FastMode: 2-32Hz (only analog input)
Memory capacity: 4 million readings (internal)
 500 million readings (SD card)
Dimensions: 185 x 142 x 53 mm
Enclosure material: aluminium

Sensors and inputs

Inputs: DCXP8-R 8x
 DCXP16-R 16x
Input configuration: Voltage, Current, Pulse
 Temperature PT100/PT1000
 Thermocouple Types K,T,J,B,E,N,R,S
 Trigger input: potential-free or 3...24VDC
 Alarm output: Relay 60V/1A

	Range	Resolution	Accuracy
PT100/PT1000 4-wire sensing	-70...+250°C	0.01 K	see diagram
Thermocouple Types K,T,J,B,E,N,R,S	-100...+1 300°C	0.05 K	class I/II
Relative humidity: (Digital probe) Combined digital humidity/temperature probes only use one channel of the DCXP.	0...100% rH	0.04% rH	see diagram

Single-ended voltage signals

Range (mV):	0-10	0-20	0-50	0-100	0-1V	0-2,5	0-5V	0-10V
Resolution (µV) ³ :	0.58	0.58	0.76	1.54	15.4	38.9	76.9	154
Input impedance (Mohm):	2.5	2.5	2.5	2.5	2.5	0.1	0.1	0.1
Accuracy:	0.1% of measurement range							

³ Single-ended signals can be recorded at a maximum of 8 Hz.
Resolution increases by ten times compared to the values specified above.

High impedance mode (voltage signals)

Range (mV):	+/- 5	+/-10	+/-20	+/- 50	+/-100	+/-1000
Resolution (µV) ² :	0.15	0.3	0.6	0.8	1.5	15
Input impedance	1 GOhm					
Accuracy:	0.1% of measurement range					

² Maximum sample rate is 1 Hz. This input range is used mostly for measuring electrochemical reactions.

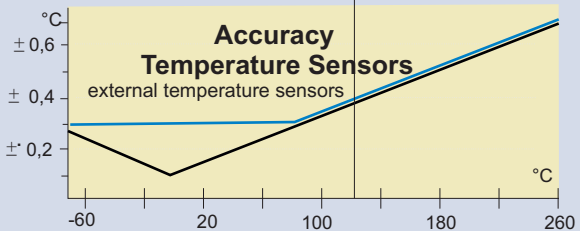
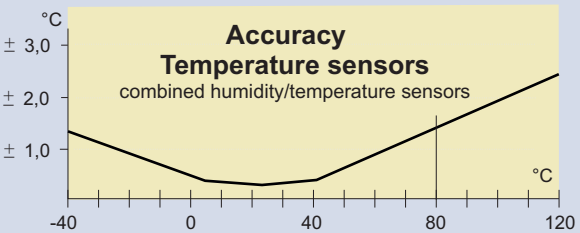
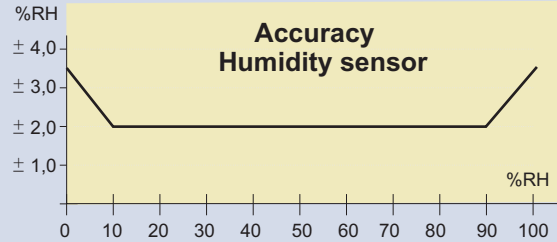
Current

Range (mA)	0 - 24mA
Resolution (µA)	0.36 µA
Input impedance	10 Ohm
Accuracy	0.1% of measurement range

Connecting analog signals

Voltage/Current:

Voltage signals from 0...1V can be fed in with the DKC-S standard cable.
 Signals of up to 24V can be connected using the DKC-U.
 Measuring current signals requires the DKC-I cable.



-- External probes without calibration

-- External probes EU,DS,CO with physical calibration

Pulse (potential-free)

Range	0...65 000 pulses / Interval	0...100 Hz
Resolution	1 pulse / 1 Hz	1 pulse / 1 Hz
Accuracy	1 pulse / 1 Hz	1 pulse / 1 Hz

Pulse (voltage pulse, max. 24V)

Range	0...65 000 pulses / Interval	0...1 300 Hz
Resolution	1 pulse / 1 Hz	1 pulse / 1 Hz
Accuracy	1 pulse / 1 Hz	1 pulse / 1 Hz

Strain gauges (wheatstone) (for bridges with 60...700 ohm)

Range (mV)	+/- 5	+/-10	+/-20	+/- 50	+/-100
Resolution (µV) ¹	0.15	0.3	0.6	0.8	1.5
Input impedance	2.5 Mohm				
Genauigkeit	0.1% des gewählten Messbereiches				

¹ At a sampling rate of 8 HZ the resolution is ten times compared to the specified values.

Pulse:

Potential-free signals with a low level <0.5 VDC and a high level between 2 and 3 VDC can be connected using the included standard cable DKC-S.

Suitable Probes and Accessories

for the DCXP-R Data Logger

Driesen+Kern GmbH manufactures a range of reasonably priced standard temperature probes suitable for the "Rugged" Data Loggers. See the separate product data sheet for our wide choice of available probes.

Temperature sensors for the DCXP-R Data Logger

	DS Standard probe D=4mm, L=100mm CM Standard probe D=4mm, L=50mm		CO Air probe D=4mm, L=17mm extra fast response time
	EU Surface probe L=20mm, W=10mm EUM Surface probe with magnet L=25mm, W=14mm		MT Sheathed Thermocouple D=3mm, L=200mm high temperature up to 1 200°C (see separate data sheet for more thermocouple probes)

Humidity/Temperature Sensors for the DCXP-R Data Logger

	RFT - Probe for measuring humidity and temperature. Operates at -20... +80°C and up to -40/+120°C with special cable type G. Dimensions: D=8x35mm		DKRF300 - Probe for measuring humidity and temperature. Op. conditions: -20... +80°C Dimensions: D=8x101mm, suitable for DK325 and DK390
	RFTXS - Miniaturized probe for humidity in walls (flush mounting, screed, tiles) Sensor dimensions (D=4,6mm, L=200mm), max. +80°C		RFTXXS - Special probe with extra small dimensions (D=4mm, L=20mm), Cable length: 2m, Operating conditions: -40...+80/+120°C
	RFTO - Special probe for humidity/temp measurements in walls and boundary layers between -20...+80°C. D=30mm x H=10mm		RFTW - Special probe for measurements in boundary layers such as walls or intermediate spaces Dimensions: L=45mm,B=20mm
	DKRF370 - Humidity/temperature probe for compressed air up to 100 bar, G3/8" thread, L=100mm, D=13mm, Operating conditions:		TR351 Radiation/Rain Shield suitable for probes RFT-325 and DKRF300-325. Minimizes the impact of sunlight and rain. (D=77mm/H=108mm)
	SHS - Special probe for condensation detection. Condensation sensor signals 1 when condensation causes wetting. Operation at 0...50°C Dimensions: 43 x 10mm		SHSW - Special probe for detection of wetting and water ingress. Probe sends signal 1 when detecting water and 0 when the monitored area is dry. Dimension: 60 x 10mm

Connecting Cables for Temperature/Humidity Probes



Standard probes are fitted with Type V PVC cables and can be used under conditions from -20...+80°C. Special Teflon® (Type G) cables allow operation within the range of -75...+250°C. Operating conditions of probes RFT-325 and RFTXXS-325 with the Teflon® cable are -40°C...+120°C. Order identifier paradigm: **DS-325-V-2000** stands for standard probe with 2m PVC cable; **DS-325-G-2000** is the standard probe with 2m Teflon® cable.

Suitable Probes and Accessories

for the DCXP-R Data Logger

Driesen+Kern GmbH offers a range of sensors that can be connected to the DCXP-R Data Logger. Below is a selection of our products. Of course, you can also equip the device with another product if you do not find a suitable model among the listed sensors. Please don't hesitate to contact us for advice on how to choose the right sensor.

Current Clamps, Linear Position Sensors, Force Sensors, Weather sensors		
	<p>Current Clamp MN-89 Range: 0.5..240A Max. conductor D=20mm</p>	 <p>Transducer Model Uw: $U_{max} = 650V$ (AC) (no aux. voltage required) Model UgT: $U_{max} = 600V$ (DC) Model IgT: $I_{max} = 5A$ (DC)</p>
	<p>LP-50F Linear Position Sensor Detects displacements Total length: L=129mm Electrical stroke max. 50mm</p>	 <p>K25 Load Cell For tension and compression force measurements Range: 0.02...50 kN Accuracy: 0.1%/0.2%</p>
	<p>SKYE Light Sensors We offer a variety of sensors, e. g. Pyranometers for total sunlight, UV and PAR sensors</p>	 <p>EC5 Soil Moisture Sensor Special probe for measurements of soil moisture Dimensions: 43 x 10mm</p>
	<p>MA60-Micro/Mini/Makro Air Velocity Sensors Measuring range: 0.2..40m/s MA6-Mikro: D=11x15mm MA6-Mini: D=22x28mm MA6-Makro: D=85x80mm</p>	 <p>Pressure Probe PSense650 Various models as waterlevel or screw-in probes with ranges from 1 bar up to 100 bar</p>
	<p>ARG100 Rain Gauge Well-priced tipping bucket rain gauge Collector surface: 506.7cm² Sensitivity: 0.2mm</p>	 <p>Young 52202/52203 Rain Gauge Heatable tipping bucket rain gauge, recommended by the WMO Collector surface: 200cm² Resolution: 0.1mm</p>
	<p>WG3400 Reasonably Priced Air Velocity Transducer Range: 0.5-35m/s Accuracy: 0.5m/s i. e. 5% (no aux. supply needed)</p>	 <p>WR3124 Well-priced Weather Vane (Potentiometer) Resolution: 0.5° (requires no additional power supply)</p>

Accessories for DataCollectorXP Data Logger		
	<p>The logger comes in a cushioned carrying case. Also included are the mains power supply, the USB data cable, terminal plugs for the input channels and the InfraLog for Windows Baisc Software (on USB flash drive).</p>	 <p>A Certificate of Calibration can be provided with every logger upon request!</p>

Software *InfraLog* for Windows V5

for DataCollectorXP - Data Logger



InfraLog V5

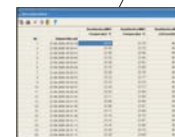
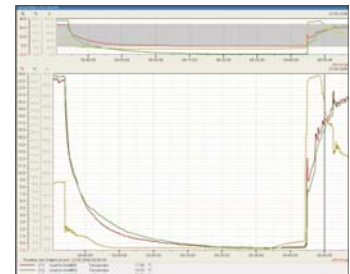
Basic-Version
Light-Version
Enhanced-Version

for WindowsXP/
Win7/Win8/Win10

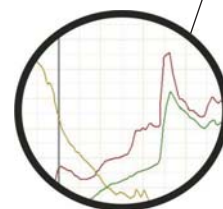
The Software *InfraLog* provides EASY, SECURE & CONVENIENT control for all Driesen+Kern products. After establishing a connection between your logger and PC, *InfraLog* automatically detects the device. *InfraLog* offers a multitude of features for the DCXP Data Logger Series. Included in delivery is *InfraLog* for Windows Basic.

INFRALOG FEATURES	BASIC	LIGHT	ENHANCED <i>(Professional)</i>
Automatic device detection	x	x	x
Conversion from base units of measurement into customizable physical values	x	x	x
Load/save device settings	x	x	x
Upgrade device firmware via USB	x	x	x
Save readings to your PC's hard drive or network storage	x	x	x
Customize <i>InfraLog</i> 's appearance	x	x	x
Symbols and Icons indicate logger status (logging/alarm/battery)	x	x	x
Total control (settings, start, stop, download etc.)	x	x	x
Measurement input configuration	x	x	x
Download data without stopping the logger	x	x	x
Online readings	x	x	x
Export to Excel (fast conversion)	x	x	x
Calculate absolute humidity, dewpoint etc.	x	x	x
Supports USB 2.0 for download rates of 1 Mbit (100 000 readings in 20 s)	x	x	x
Menu languages (German, English, Spanish, French)	x	x	x
Compatible with Windows XP, 7, 8 & 10	x	x	x
Formula compiler calculates any measured variable		x	x
y/t charts (readings over time)		x	x
Three scalable axes		x	x
Zooming function		x	x
Meter readings at the cursor		x	x
Display as spreadsheets		x	x
Combine a series of measurement in one chart		x	x
Definition of thresholds		x	x
Statistics (min, max and average values)		x	x
y/x charts (values over values)			x
Generate daily, weekly, monthly and annual reports			x
Specify beginning and end of analyzed period			x
Input of analysis interval			x
Print settings			x

Well-arranged charts with overview and up to three Y-axes



Meter-reading at the cursor



Zooming function





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