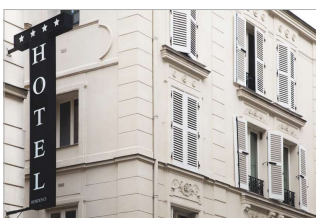# Pipe Network Analysis

... with the DK680 Pressure & Temperature Loggers

DK680 Data Loggers
for Water & Gas Pressure with Optional Temperature Measurement

The DK680 is a robust data logger for measuring pressure in gases or water, and optionally also for measuring temperature.
When monitoring pressure in pipe networks the device can detect short-term fluctuations as well as long-term changes in pressure thanks to a sampling interval between 8 Hz and 24 hours.

Applications

- Pipe network analysis
- Failure analysis in pipe networks
- Leakage tests
- Function monitoring in air pressure systems

Installation

Data loggers with a range of max. 30bar are delivered with a quick release connector. This allows for quick and secure installation in varying places. All loggers will be supplied with a quick disconnect coupling (G1/8" male thread)
Other options include G1/4", G3/8" and G1/2".
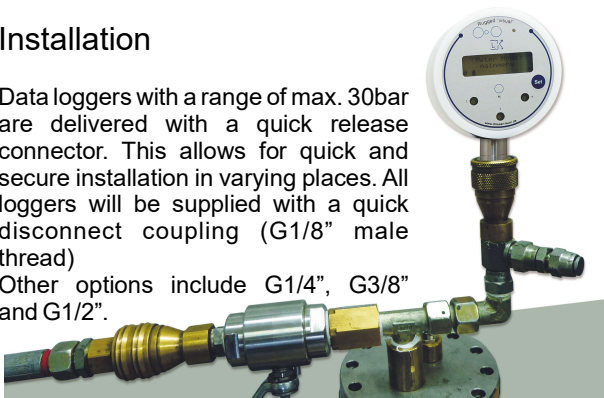
An additional protection can be achieved using the anti-theft protection which can be used only with the quick disconnect coupling (padlock not supplied).

High presure loggers (100bar) are not supplied with a quick disconnect coupling, but use a G1/2" male thread.

Measurements, Storage, Analysis

The data logger is powered by two standard lithium batteries and can operate continuously up to 8 years depending on the selected sampling interval.

The display shows the current readings as well as the battery condition. It also indicates whether the device is currently logging or not.
An LED signals the exceedance of preset alarm thresholds.

Three additional inputs can optionally be provided (Option -3S) for use with external transmitters (e. g. temperature, pulse (water flow meter)), pressure probes or analog signals. Driesen + Kern offers a range of suitable probes and sensors.

Alarm function with mobeye® - CM Guard

With the universal alarm CM4000, which you can hook up to the DK680 without a problem, you can get an alarm notification on your phone as either push-message, SMS and/or email.

For further information visit our homepage or refer to the separate spec

Features

Features
Robust pressure data logger
3x optional, programmable inputs, e. g. for temperature, voltage/current, pulse count
Live readings on LCD
Excellent measuring accuracy
Large memory capacity for up to 4 million readings
USB port
Sampling interval programmable from 8 Hz to 24 hrs
Battery life up to 8 years
Stop when full or continuous logging
LED indicator for alarm conditions

Certificate of Calibration

Included in the delivery of the DK680, we supply a certificate of calibration for pressure, which is traceable to national and international standards.
Optionally we also offer certificates for the external temperature probes or external pressure probes
Furthermore we can provide DAkkS calibration certificates upon request.

Sensors and Inputs

	Range	Resolution	Accuracy	Overpressure
Pressure (absolute)	0...1bar 0...4bar 0...10bar 0...25bar 0...100bar	0.005% 0.01%	±0.1%[1] ±0.4%	4bar 10bar 32bar 32bar 130bar
Pressure (gauge)	0...250mbar 0...1bar 0...4bar	0.005%	±0.1%[1]	2bar 2bar 10bar
Temperature (ES Probe)	-40...+120°C	0.01°C	±0.3°C	130bar

[1] optional: enhanced accuracy ±0.05%

Pressure Logger Order Code

DK680-S-MA-MB-RF

S	= Sensor input	0	= pressure only (int.)
		3S	= 3 additional inputs

MA	= Measurement	A	= Absolute pressure
		R	= Gauge pressure

MB	= Range	A:	1	= 0...1bar
			4	= 0...4bar
			10	= 0...10bar
			25	= 0...25bar
			100	= 0...100bar
		R:	0.25	= 0...250mbar
			1	= 0...1bar
			4	= 0...4bar

RF	= Int. humidity & temperature sensor	0	= w/o RH/T sensor
		1	= integrated RH/T sensor

External Probes for the DK680 Logger
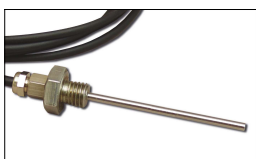
Screw-In Probe ES30 / ES100
Length either 30 or 100mm G1/8" external thread, D=4mm to be used up to max. 200°C/200 bar.

Screw-In Probe EU / EUM
Surface Temperature Probe (EU), optional with magnet (EUM)
Air-, Water Probe DS
D = 4 mm, L = 100 mm, stainless steel

Temperature Probe Order Code

Type-325-K-KL-A

Type		ES30, ES100, EU, CS
K = Cable		S = Silicon cable (only ES) V = PVC (< 80°C) G = PFA (< 250°C)
KL = Cable length		2000 = 2 m 5000 = 5 m
A = Connector	4	= Connector comp. with DK-Logger

P-Sense650 Pressure Probe
Additional external pressure probe available as water level probe, screw-in probe with G1/2 inch screw thread or with quick disconnect coupling

Pressure/Water Level Probe Order Code

PSENSE650-O1-O2-O3-MB-MA-KAL-K-KL-A

O1 = Option1	P	= Pressure only
O2 = Option2	S V	= Accuracy 0.5% = Accuracy 0.1%
O3 = Option3	STD AG18 AG12 SK18	= Water level probe = Connection thread (G1/8") = Connection thread (G1/2") = Quick coupling (G1/8")
MB = Range	0.6 1 2 5 16 BARO	= 0...600mbar = 0...1 bar = 0...2 bar = 0...5 bar = 0...16 bar = barom. pr. 800...1200hPa
MA = Measurement	A	= Absolute pressure
KAL = Calibration	STD XXX	= Calibrated for the range specified in MB = Special calibration Specify as follows: 0/500 for 0...500mbar
K = Connection cable	V G	= PVC, Tmax. 80°C = PFA, Tmax. 120°C
KL = Cable length	2000 = 5000 = X =	2m 5m Specify req. length
A = Connector	4	= Connector comp. with DK-Logger

DK680 Data Logger Specifications

Single-ended Voltage Signals

Range (mV):	0..10	0..20	0..50	0..100	0..1V	0..2,5V	0..5V	0..10V
Resolution (µV)[1]:	0.58	0.58	0.76	1.54	15.54	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 selected measuring range							

Current

Range (mA):	0...24mA
Resolution (µA):	0.36µA
Input impedance:	10Ω
Accuracy:	0.1% of selected measuring range

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 cable.
Measuring current signals requires the DKC-I cable.

Pulse (potential-free)

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

Pulse (voltage pulse, max. 24V)

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

Potential-free signals with a low level <0.5VDC and a high level between 2 and 3 VDC can be connected using the included standard cable DKC-S.
Higher singals of up to 24V can be measured using the DKC-P cable.

Operating range
(Logger and Pressure Probes[1]): -20...+70°C
Dimensions: d=90mm, h=65mm
Battery life: 8 years @ 1 minute
200 days @ 1 second
37 days @ 8 Hz

Interval: 32 Hz....24 Std.
-3S with temp. & rel. humidity: 4 Hz....24 Std.
-3S with analog signals: 8 Hz....24 Std.

Housing material:
Data logger POM, Ip65
Sensor V4A

Memory capacity: 4 million readings

Included in delivery:
Models DK680 with quick disconnect coupling (max 30bar)
Datalogger, quick disc. coupling G1/8", 2x battery,
Software InfraLog for Windows Basic (download),
USB cable, calibration certificate

Models DK680 - 100bar
Datalogger with G1/2" male thread , 2x battery
Software InfraLog for Windows Basic (download),
USB cable, calibration certificate

Options for Dk680:
-3S 3 additional inputs for external sensors and transmitters
InfraLog-Light Software *InfraLog Light*
InfraLog-enhanced Software *InfraLog Enhanced*

DK6800060 Anti-Theft-Protection (only for DK680 with quick release, lock not supplied)
DK6800050 Quick coupling set (1x G1/4, G3/8" and G1/2")
DK6800070 5 pcs. quick coupling G1/8"
Dk6800071 5 pcs. quick coupling G1/4"
DK6800072 5 pcs. quick coupling G3/8"
DK6800073 5 pcs. quick coupling G1/2"

[1] A special calibration for temperatures up to 120°C can be offered as an option

Analysis Software InfraLog light

The Software InfraLog for Windows Basic allows you to set parameters, start the logger, download data as well as export readings to a CSV file type for later use with MS Excel or similar applications. InfraLog Light also offers substantial graphic functions (zoom in, readings at the cursor etc.) and the option to combine several series of measurements in a single diagram.

DK680 with G1/2 inch threading adapter

CE
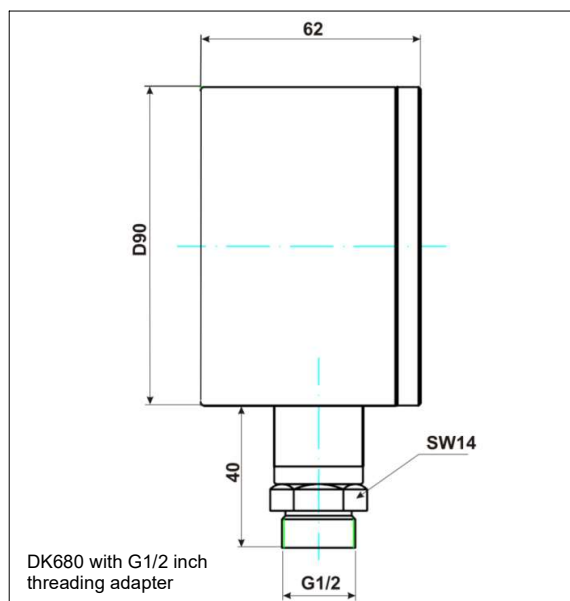
Am Hasselt 25
D-24576 Bad Bramstedt

Tel.: 04192 8170-0
Fax: 04192 8170-99

info@driesen-kern.de
www.driesen-kern.de