Dakota NDT
an Elcometer company

PCX Series
Thickness Gauges

STANDARDS:
EN 14127, EN 15317

Bluetooth® wireless technology

compatible with DakMaster™

HIGHLIGHTS:

- Hi & Lo limit indicators provides indication of problem areas
- Save up to 3 calibration methods in memory
- Calibration options: 2-point, 1-point, material, velocity, defined and factory thickness calibration to allow accurate measurement of a wide range of materials
- Scan Mode at 16Hz, ideal for measuring a large surface area
- Selectable reading rate of 4, 8, 16Hz (4, 8, 16 readings per second)
- Intelligent transducer attached with auto recognition, ensures correct probe is identified when transducer is changed

Dakota PCX

Ultrasonic Precision Thickness Gauge

±1% accuracy across three measurement modes

Accurate

Measures thin materials with pinpoint accuracy

Flexible & easy to use, the Dakota PCX gauges have a measurement range from 0.15mm (0.006”) to 25.40mm (1.000”) with up to ±1% accuracy, across three measurement modes; Interface Echo (IE), Echo Echo (EE) & Plastic mode (PLAS).

Customisable reading display

Customisable

Choose & customise the reading display

The Dakota PCX range has a choice of display modes allowing the user to select the most appropriate for their needs; Readings, Selected Statistics, Bar Graph, Run Chart & Differential Mode.

Up to 100,000 readings can be saved into the gauge memory

Powerful

Store each measurement for further analysis

Up to 100,000 readings can be saved into the gauge memory as each measurement is taken, which can be downloaded later into an inspection application or into DakMaster® Software for further analysis and reporting.

Connect the gauge via Bluetooth® or USB to PC

Wireless Connectivity

Seamlessly connect to any PC

Connect the Dakota PCX8-DL via Bluetooth® or USB to a PC & download the data into an inspection application or into DakMaster® Software for instant report generation.

Dakota PCX — Ultrasonic Precision Thickness Gauge

Measurement Modes

Interface Echo (IE); The total thickness from the top of any coating through to the material density boundary (typically the back-wall) is measured. Suitable for measurement of materials between 1.65mm and 25.4mm (0.065” to 1”) thick.

Echo Echo (EE); ideal for measuring thin materials, the material thickness from the top surface of the material to the material density boundary (typically the backwall) is measured. Suitable for measurement of materials between 0.15mm and 10.15mm (0.006” to 0.4”) thick.

Plastic Mode (PLAS); specifically used for measuring very thin plastics between 0.15mm and 5mm (0.006” to 0.197”) thick. A graphite delay line is required when using this mode.

User Definable Upper and Lower Limits

The PCX gauges have user definable upper and lower limits with audible and visual pass/fail warnings allowing the user to compare readings to predefined values. The PCX8-DL can store up to 40 pre-programmed limits whichcan be set for individual readings or for each batch.

If a measurement is taken which falls outside set limits, the reading value and the limit icon turn red, the red LED flashes and the alarm beeps providing immediate indication of problem areas.

Calibration Options

The PCX gauges have a number of calibration options including the 1-Point & 2-Point method and Velocity. Alternatively, the user can select one of 39 pre-set materials stored within the gauge including; aluminium, steel, stainless steel, cast iron, plexiglass, PVC, polystyrene and polyurethane.

The PCX8-DL allows users to store into memory up to three calibrations. Once saved the user can select a calibration without the need to re-calibrate the gauge. Using the gauge’s alpha-numeric function, calibration memories can be re-named to suit the calibration setting.

Dakota PCX

Ultrasonic Precision Thickness Gauge

A choice of display modes

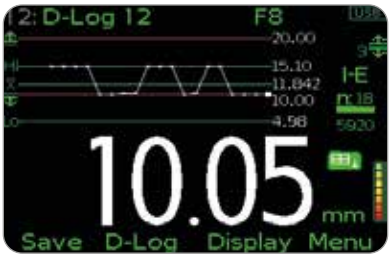
Readings

The reading value is displayed.

Selected Statistics

Up to 8 statistical values can be displayed as defined by the user.

Run Chart



A line trend graph of the last 20 measurements which is updated after each reading.

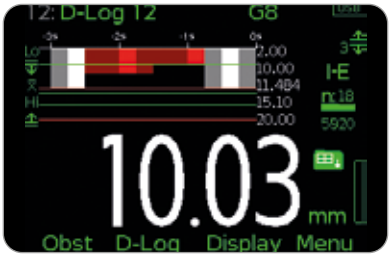
Bar Graph

An analogue representation of the current measurement value together with the highest (Hi), lowest (Lo) and average (x̄) reading.

Readings & Differential

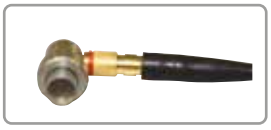
The last reading is displayed together with the variation from the nominal value (if set).

B-Scan



A cross-sectional view of the material being tested is displayed along with readings taken, saved readings, highest (Hi), lowest (Lo) and average (x̄) reading and upper/lower limit values (if set).

Visit www.Dakota.NDTcom for the full range of Dakota Transducers



Dakota PCX — Ultrasonic Precision Thickness Gauge

Product Features

Model Number	PCX8-DL
Easy to use menu structure in multiple languages	■
Tough, impact, waterproof and dust resistant equivalent to IP64	■
Bright colour screen with permanent backlight	■
Ambient light sensor, with adjustable brightness	■
Scratch and solvent resistant display; 2.4" (6cm) TFT	■
Large positive feedback buttons	■
USB power supply via PC	■
Gauge software updates[1] via DakMaster® Software	■
2 year gauge warranty[2]	■
Limits: 40 definable audible & visual pass/fail warnings	■
Measurement Mode	
Echo Echo (E-E)	■
Interface Echo (I-E)	■
Plastic Mode (PLAS)	■
Measurement Rate	
4, 8, 16Hz	4, 8, 16Hz[3]
Thickness Range[4]	
E-E 0.15 - 10.15mm (0.006 - 0.400")	■
I-E 1.65 - 25.40mm (0.065 - 1.000")	■
PLAS 0.15 - 5.00mm (0.006 - 0.197")	■
Measurement Units	
mm or inches	■
m/s, inch/µs	
Repeatability / Stability Indicator	■
Display Mode	
Reading	■
Selected statistics	■
Scan thickness bar graph	■
Run Chart	■
Readings and Differential	■
B-Scan cross sectional display	■
Selectable Reading Resolution	
Lo; 0.1mm, 0.01 Inch, 10m/s, or 0.001 in/µs	■
Hi; 0.01mm, 0.001 Inch, 1m/s, or 0.0001 in/µs	■

[1] Internet connection required.

[2] The Dakota PCX range is supplied with a 1 year warranty against manufacturing defects. The warranty can be extended free of charge to 2 years within 60 days of purchase via www.Dakota.com.

[3] User selectable default setting in Scan Mode is 16Hz.

[4] Dependent on the material being measured and the transducer being used.

Dakota PCX — Ultrasonic Precision Thickness Gauge

Product Features

Model Number	PCX8-DL
Statistics	
Number of readings,n; Mean average, $\bar{x}$; Standard deviation, σ.	■
Lowest reading, Lo; Highest reading, Hi	■
Low / high limit value	■
Reading Range Value	■
Nominal Value	■
Number of readings below low limit	■
Number of readings above high limit	■
Calibration Options	
Zero (using the integral zero disc)	■
1 - point	■
2 - point	■
Material selection; 39 preset materials*	■
Factory; resets to the factory calibration	■
Velocity (speed of sound)	■
Known thickness value	
Calibration Features	
Calibration lock; with optional PIN Lock	■
Test calibration feature	■
Calibration memories: 3 programmable memories	■
Measurement outside calibration warning	■
Data Logging	
Number of readings	100,000
Number of batches	1,000
Sequential batching	■
Grid batching	■
Fixed Batch Size Mode; with batch linking	■
Obstruct entry; add 'obst' into grid location	■
Delete last reading	■
Date & time stamp	■
Review, clear & delete batches	■
Alpha numeric batch names; user definable	■
Batch review graph	■
Data Output	
USB to PC	■
Bluetooth® to PC, Android™ & iOS devices	■
DakMaster® Software	■
Transducer Probe Type	
Single Element	■
Auto Transducer Recognition	■

Dakota PCX Ultrasonic Precision Thickness Gauge

Technical Specification

Part Number	Description	Certificate
PCX8-DL	Dakota PCX8-DL Ultrasonic Material Thickness Gauge	●

Model Number	PCX8-DL	
Measurement Range[1]		
Interface Echo (IE)	1.65 - 25.40mm (0.065 - 1.00”)	
Echo Echo (EE)	0.15 - 10.15mm (0.006 - 0.400”)	
Plastic Mode (PLAS)	0.15 - 5.00mm (0.006 - 0.197”)	
Measurement Accuracy[2]		
Interface Echo (IE)	±0.015mm (1.65 - 2.99mm) ±0.5%(3.00 - 25.4mm)	±0.0006” (0.065 - 0.117”) ±0.5% (0.118 - 1.000”)
Plastic Mode (PLAS)	±0.015mm (0.15 - 2.99mm) ±0.5% (3.00 - 5.00mm)	±0.0006” (0.006 - 0.117”) ±0.5% (0.118 - 0.197”)

Operating Temperature	-10 to 50°C (14 to 122°F)
Power Supply	2 x AA batteries
Battery Life[3]	Alkaline: 15 hours Lithium: 28 hours
Gauge Weight	210g (7.4oz) - including batteries, without transducer
Gauge Dimensions	145 x 73 x 37mm (5.7 x 2.84 x 1.46”), without transducer
Packing Lists	Dakota PCX8-DL Ultrasonic Precision Thickness Gauge, 15MHz transducer (TXC15M0CM), ultrasonic couplant, 3 x screen protectors, wrist harness, 2 x AA batteries, plastic transit case, calibration certificate, USB cable, DakMaster™ Software, operating instructions

[1] Dependent on material being measured & transducer being used. [2] On steel.

[3] Approximate battery life, when in Continuous Reading Mode at a reading rate of 4Hz. Rechargeable batteries may differ.

● Calibration Certificate supplied as standard.

Dakota PCX

Ultrasonic Precision Thickness Gauge

Suitable for:
PCX8-DL

The Dakota **Precision Thickness Transducers** are ideal for measuring when pinpoint accuracy is key.

Disk	Part Number	Probe Diameter	Element Type	Damping*	ThruPaint™	Connector Type: Microdot	Connector Type: Lemo	Connector Type: BNC	Connector Type: Top	Connector Type: Side	Suitable for: PCX8-DL
	15.0MHz Single Element Transducer										
●	TXC15M0CM	¼"	Single Element Delay Line	S		•				•	•

Delay Lines

Each single element transducer is supplied complete with 9mm and 12mm acrylic delay lines suitable for measuring on steel, aluminium and titanium. If measuring on thin plastics using Plastic Mode (PLAS), a graphite delay line must be used. These are available to purchase as optional accessories.

Part Number	Description
F-000-7102	Acrylic Delay Line; ¼" Dia. x ⅜"
F-000-7103	Acrylic Delay Line; ¼" Dia. x ½"
X-633-0000	Graphite Delay Line; ¼" (Plastics)

Each transducer can be easily identified by the disk on the top.

* Damping: **S** - Standard undamped Transducer

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