DFC
DIGITAL FORCE CONTROLLER

Starrett®

METROLOGY SOLUTIONS

The DFC may be used as a high-accuracy handheld force gage or as a digital controller for use with the FMM Digital Force Testers. As a controller, the DFC Series serves as the universal interface to your digital force tester. Set up your tests and configure load limits, distance limits, break limits, crosshead travel direction, crosshead speed and more all through the gage.

The DFC features a measurement accuracy of 0.1% full scale with internal data sampling at 25kHz. Display resolution is 10,000:1. The DFC features Bluetooth®, USB and RS-232 communications plus digital I/O.

Save up to 99 test results in internal memory. View historical and statistical results.

The DFC features a high-resolution 320 x 240 pixel color display with an adjustable backlight. The instrument is powered using a lithium ion battery. The gage is charged using the standard USB cable supplied. Information can be displayed in multiple languages: English, Deutsch, Portugues, Spanish, French, Italian, Chinese and more.

The DFC is supplied with a full set of testing adapters, USB cable and a NIST-traceable certificate of calibration. The DFC has a standard 3-year warranty.

Specification	DFC
Accuracy, Full Scale	0.10%
Data Sampling (Hz)	25,000
Display Resolution	10,000:1
Safe Overload, Full Scale	200%
Maximum Tare	10%
Communications	
Bluetooth®	Yes
USB 2.0	Yes
RS-232	Yes
Digital I/O	2 channels
Memory, saved results max.	99
Operating Mode	
Machine Control1	Yes
Real Time	Yes
Peak Compression	Yes
Peak Tension	Yes
Load Limit	Yes
Break Limit	Yes
Load Average	Yes
Load-Time Average	Yes
Cyclic Count, Max.	99,999
Cyclic Duration, Max.	27 Hrs.
Hold Duration, Max.	27 Hrs.
Coefficient of Friction	Yes
Power, Environmental	
Battery Type	Lithium Ion
Battery Life, @ 20% brightness	>30 hours
Charge Time, using 110/240V	<3 hours
Display (OLED)	320 x 240
Operating Temperature	40°F to 110°F (4°C to 43°C)
Thread, for adapters (Metric)	M6, M10
Instrument Weight (approx.)	3 lbs (1.36 kgs)
CE Compliance EN61010-1 Safety for Electrical Equipment EN61000-6-3 EMC Generic Emissions EN61000-6-1 EMC Generic Immunity	

NOTES
Machine control is exclusive to the DFC. When connected to the FMM Digital Force Tester, configuration of force gage and tester is performed through the gage.

DFC Controller on the FMM Digital Force Tester

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FOR ADVANCED AND BASIC TESTING APPLICATIONS

The DFC Digital Force Gage can be used as a handheld instrument for basic applications or as a force sensor when used with a FMM Digital Force Tester, MTL and MTH Manual Tester. Listed are the various test methods that can be performed:

- Limit Testing - Use load, distance or a break condition and report results at the limit including maximum load and distance at maximum load.
- Load Average Testing - The load average test measures the load from the start and end of a test sequence.
- Time Average Testing - Set a time duration for a test. When load is measured at the start of the test, the test concludes at the end of the time duration. Average load is measured.
- Cyclic Count Testing - Define the number of cycles, up to 99,999 to be completed.
- Cyclic Duration Testing - Define the duration of cycles, up to 27 hours to be completed.
- Constant Hold Testing - Hold at a distance or load for creep and relaxation results. The maximum duration is 27 hours.

DFC - Advanced Force Controller

	Load Capacity					Full Scale Deflection		Thread	Accessory
Model	N	KGF	LBF	OZF	GF	in	mm	mm	Kit
DFC-2	10	1	2	32	900	0.013	0.33	M6 x 1-6H	SPK-FG-A
DFC-5	25	2	5	80	2200	0.007	0.18	M6 x 1-6H	SPK-FG-A
DFC-10	50	5	10	160	5000	0.006	0.15	M6 x 1-6H	SPK-FG-S
DFC-20	100	10	20	320	9000	0.008	0.20	M6 x 1-6H	SPK-FG-S
DFC-50	250	25	50	800	23,000	0.015	0.39	M6 x 1-6H	SPK-FG-S
DFC-100	500	50	110	1600	45,000	0.024	0.60	M6 x 1-6H	SPK-FG-S
DFC-200	1000	100	225	-	-	0.021	0.54	M6 x 1-6H	SPK-FG-M
DFC-500	2500	250	550	-	-	0.028	0.70	M10 x 1.5-5H	SPK-FG-L

NOTES
Load measurement accuracy is ±0.1% of load cell capacity. Display resolution is 10,000:1.