

# ED<sup>X</sup>treme Dynamometer Specifications

# DILLON

## Capacity & Resolution

Model*	Capacity x Resolution (normal/enhanced)			Overload <sup>†</sup>	Construction
EDx-1T (EDx-2.5K)	2,500 lbf x 2/0.5	1,000 kgf x 1/0.2	10,000 N x 10/2	700%	Aircraft-quality 2024 aluminum
EDx-2T (EDx-5K)	5,000 lbf x 5/1	2,000 kgf x 2/0.5	20,000 N x 20/5		
EDx-5T (EDx-10K)	10,000 lbf x 10/2	5,000 kgf x 5/1	50,000 N x 50/10		
EDx-10T (EDx-25K)	25,000 lbf x 20/5	10,000 kgf x 10/2	100,000 N x 100/20	500%	Aircraft-quality E4340 alloy steel
EDx-25T (EDx-55K)	55,000 lbf x 50/10	25,000 kgf x 20/5	250,000 N x 200/50		
EDx-50T (EDx-100K)	100,000 lbf x 100/20	50,000 kgf x 50/10	500,000 N x 500/100		
EDx-75T (EDx-160K)	160,000 lbf x 100/50	75,000 kgf x 50/20	—	400%	Aircraft-quality E4340 alloy steel
EDx-100T (EDx-220K)	220,000 lbf x 200/50	100,000 kgf x 100/20	—		
EDx-150T (EDx-330K)	330,000 lbf x 200/100	150,000 kgf x 100/50	—		
EDx-250T (EDx-550K)	550,000 lbf x 500/200	250,000 kgf x 200/50	—		

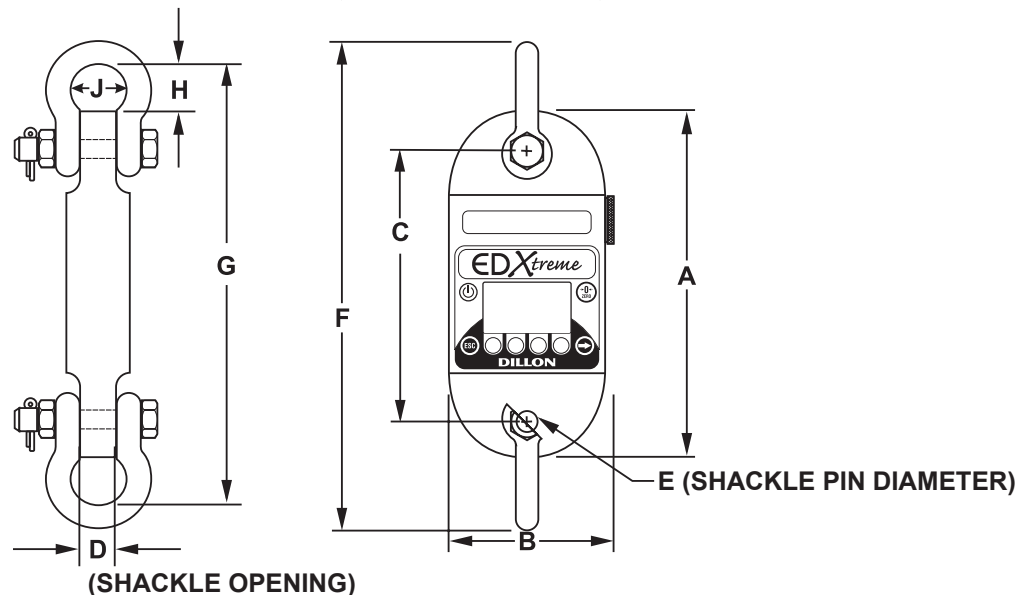
\* Model number in parenthesis shows U.S. convention for describing capacities. † Ultimate overload protection rating.

## Dimensions inches (mm)

Model	A	B	C	D	E	F	G	H	J	Shackle
EDx-1T	10.6 (269)	5.0 (127)	7.8 (198)	1.06 (26)	0.75 (19)	15.3 (389)	13.4 (340)	1.36 (34)	1.69 (43)	Dillon
EDx-2T	10.6 (269)	5.0 (127)	7.8 (198)	1.06 (26)	0.75 (19)	15.3 (389)	13.4 (340)	1.36 (34)	1.69 (43)	Dillon
EDx-5T	11.4 (289)	5.3 (135)	8.1 (206)	1.46 (37)	1.00 (25)	17.5 (444)	15.7 (400)	2.17 (55)	2.28 (58)	Green Pin*
EDx-10T	11.5 (291)	5.3 (133)	7.9 (201)	2.01 (51)	1.38 (35)	21.0 (534)	18.5 (470)	3.50 (89)	3.25 (83)	Green Pin*
EDx-25T	13.7 (348)	6.0 (152)	9.0 (229)	2.91 (74)	1.97 (50)	28.7 (730)	25.2 (640)	5.70 (146)	4.96 (126)	Green Pin*
EDx-50T	15.8 (400)	6.8 (172)	10.3 (262)	4.13 (105)	2.75 (70)	38.8 (986)	33.7 (856)	8.98 (228)	7.09 (180)	Green Pin*
EDx-75T	16.5 (419)	7.8 (197)	10.3 (262)	4.13 (105)	2.75 (70)	39.3 (998)	33.7 (856)	8.58 (218)	7.09 (180)	Green Pin*
EDx-100T	18.0 (457)	7.8 (197)	11.0 (280)	5.00 (127)	3.25 (83)	46.9 (1191)	40.4 (1025)	11.14 (283)	7.48 (190)	Green Pin*
EDx-150T	21.0 (533)	8.8 (222)	12.6 (321)	5.25 (133)	3.75 (95)	53.9 (1368)	45.6 (1159)	12.3 (313)	9.0 (229)	Crosby
EDx-250T	27.0 (686)	9.8 (248)	17.5 (445)	8.5 (216)	5.00 (127)	75.8 (1925)	62.8 (1595)	17.9 (454)	13.0 (330)	Crosby

\* Dimensions using Green Pin shackles. Crosby shackles available. Consult factory for dimensions.

Dimensions shown are nominal and subject to tolerances.



## Dynamometer Specifications

**Enclosure:** Designed to NEMA4X/IP55. Suitable for continuous outdoor use.

**Accuracy:** 0.1% of capacity up to EDX-50T.\*  
 0.3% of capacity for EDX-75T and above.\*

**Repeatability:** 0.1% of capacity up to EDX-50T.\*  
 0.3% of capacity for EDX-75T and above.\*

\* Normal resolution mode with Dillon provided shackles.

**Proof Load:** 150% of capacity up to EDX-75T on Load Link.  
 110% of capacity EDX-100T and above on Load Link.  
 Will proof load shackles upon request.

**Ultimate Overload:** See table on reverse.

**Safe Overload:** 200% of capacity.

**Body Protection:** Aluminum and alloy steel capacities are powder coated.

**Bearings:** Unmatched repeatability attained by needle bearings in shackle pin holes up to EDX-5T. Shackle pin acts as inner race.

**Shackles:** Forged industry standard anchor shackles. Models up to EDX5T use precision machined shackle pin. Higher capacities use bar stock pin.

**Display:** 128 x 64 dot-graphic LCD display shows up to 6 digits 1.0" (26 mm) high plus annunciators and softkeys. Digits are .11 inches (3 mm) thick for unmatched readability.

**Display Update Rate:** 2 times per second.

**Peak Capture Rate:** 10/100/1,000 Hz

**Connector:** Recessed sealed connector may be used for serial communications or connection to a Communicator II remote.

**RS-232 Communication:** Print or extract data easily. Continuous output can drive a scoreboard. Configurable poll character.

**Calibration:** Traceable to the National Institute of Standards and Technology. Certificate included with curve of readings.

**Battery Life:** Stand alone EDXtreme with no radio and no backlight lasts up to 400+ hours. 150 hours continuous with Radio Link System. Use with two C-Cell alkaline batteries. (When using backlight, battery life will be reduced, depending on intensity.)

**Operating Temperature:** -4° F to 158° F (-20° to 70° C).

**Included with Instrument:** All include certificate of calibration, manual and batteries. Plastic carry case included for EDX-1T to EDX-50T. Higher capacities include rugged plywood storage crate. Instruments with shackles include centering spacers (EDX-20T & up) and shackle storage crate (EDX-20T to EDX-75T). Display backlight.

**Options:** Shackles. Radio communications.

**Approval:** CE on all capacities excluding 550K.

## Communicator II Specifications

**Enclosure:** Designed to NEMA 3 / IP54 with optional sleeve. Suitable for protected outdoor use.

**Instrument Size:** 9.5 x 5.0 x 2.5 inch (241 x 127 x 64 mm).

**Accuracy:** Not applicable. Only sends and receives digital information.

**Display:** 128 x 64 dot-graphic LCD display can show full readings up to 5 instruments.

**Battery Life:** Up to 80 hours continuous radio using (4) AA alkaline batteries.

**Operating Temperature:** -4° F to 158° F (-20° to 70° C).

**Connectors:** Sealed connectors may be used for serial communications and wired connection to an EDXtreme dynamometer.

**RS-232 Communication:** Print or extract data easily. Continuous output can drive a scoreboard. Configurable poll character.

**Included with Remote:** Carry case and batteries

**Accessories:** Rubberized case protector sleeve.  
 Remote wall mount bracket. Serial and remote cable assemblies.

**Optional audible alarm:** Alarm sounds (105dB) when pre-defined load limit has been exceeded.

**Approval:** CE\*

## Radio Specifications

**FCC Certified:** For unlicensed low power devices. No radio licensing or permits required for normal operation.\* (In the US and Canada. Check local ordinances in other countries.)

**Frequency:** ISM 2.4 GHz frequency band operates between 2.4 to 2.4835 GHz.

**Output Level:** 10 mW (10 dBm).

**Display Update Rate:** 1 time per second.

**Number of Links Remote Can Control:** Up to 15 addresses.

**Configuration Address:** Automatic and configurable.

**Antenna:** Integral antenna.

**Range:** \*Open-air range up to 600 feet, line-of-sight. Indoor range up to 300 feet common dependent on environment. Subject to CE marking. Low power radio systems are dependent upon interference levels from other radio systems and environmental conditions. Radio devices are not suitable for all applications.

## Weights

Model	Unit Weight lb (kg)	Weight with Shackles lb (kg)	Unit Ship Weight lb (kg)	Unit/Shackle Ship Dimension in (mm)
Communicator	1.25 (0.6)	—	5 (2)	13 x 9 x 19 (330 x 229 x 483)
EDX-1T	4.3 (2.0)	8.6 (3.9)	18 (8)	16 x 7 x 19 (406 x 178 x 483)
EDX-2T	4.4 (2.0)	8.7 (3.9)	18 (8)	16 x 7 x 19 (406 x 178 x 483)
EDX-5T	5.6 (2.5)	14 (6)	23 (10)	16 x 7 x 19 (406 x 178 x 483)
EDX-10T	16 (7.3)	38 (17)	53 (24)	21 x 11 x 23 (553 x 279 x 584)
Model	Unit Weight lb (kg)	Shackle Weight lb (kg)	Unit Ship Weight/Dimension lb (kg) / in (mm)	Shackle Ship Weight/Dimension lb (kg) / in (mm)
EDX-25T	25 (11)	91 (41)	37 (17)	85 (39)
			16 x 7 x 19 (406 x 178 x 483)	15 x 8 x 26 (381 x 203 x 660)
EDX-50T	38 (17)	216 (98)	52 (24)	250 (113)
			16 x 7 x 19 (406 x 178 x 483)	17 x 9 x 23 (432 x 229 x 483)
EDX-75T	54 (25)	229 (104)	82 (37)	250 (113)
			12 x 10 x 32 (305 x 254 x 813)	17 x 9 x 23 (432 x 229 x 483)
EDX-100T*	70 (32)	395 (179)	480 (218)	
EDX-150T*	120 (54)	650 (295)	750 (340)	
EDX-250T*	250 (113)	1490 (675)	1600 (726)	

\*Ships on pallet

# DILLON *EDxtreme frequently asked questions*

## **Why does Dillon have two electronic dynamometers?**

We observe that there are at least two types of customers with distinct needs.

### **1. EDjunior**

Many customers are looking to do relatively simple measuring. They just want to see the display... and perhaps retain the peak load. Of course they do not want to pay extra for features that they do not use, so they will purchase whatever technology is cost effective.

### **2. EDxtreme**

Many customers are looking for sophistication. The EDxtreme does everything, and does it well. Works stand-alone. Works with a remote – by wire or by radio. Sends information to a computer, printer or scoreboard. Ultra-accurate. Compensates for local gravity or multi-part lines. And much more!

## **How has the new family improved over the ED-2000 and other competitive models?**

We can not possibly mention all of the improvements, but here is a list of some of the more dramatic ones:

- ✓ New price points! Our pricing makes it easier for users to justify equipment that meets their needs.
- ✓ Awesome display! This dot-graphic display has the best viewability of any LCD technology we have seen! It can be seen from angles well, has thick easy-to-read digits and produces multi-line text to make configurations a breeze.
- ✓ Improved protection! The display rests behind 1/8" thick custom-molded Lexan panels with reinforcing ribs to distribute impacts away from the display & electronics. The serial connector on the dynamometer is recessed and angled so it is less vulnerable.
- ✓ More reliable radio system! The automatic frequency hopping 2.4 GHz radio system significantly reduces interference problems that are on the rise with single frequency 916 MHz systems.
- ✓ Optimum mechanical performance! Extreme loadcell design returns the best loadcell performance available in an electronic dynamometer.
- ✓ Sophistication! The Motorola processor handles all of the functions with ease. Extract data. Establish complex networks with easy front-panel configuration.
- ✓ We have the TOTAL! Several dynamometers can network with one Communicator! Simultaneously view all individual weights as well as the total! This is a feature that you have been asking for – Now you have it!
- ✓ Simpler recalibration! Entry through the front panel eliminates need for a computer and DOS programs.

## **What ED-2000 characteristics are carried into the new design?**

The following were cornerstone to the success of our ED-2000 and are built into the new electronic dynamometer family:

- ✓ Full range of capacities
- ✓ Easy-to-see full 6-digit display
- ✓ Industry leading resolution at 1:5000
- ✓ Safety and convenience with a remote display (wireline & radio)
- ✓ Uses common batteries
- ✓ The best warranty anywhere!

## **Why is the EDjunior so inexpensive?**

Many companies have a \$1000 threshold for capital expenditures or additional internal approvals and red-tape. Getting the price below this threshold makes selling easier to these customers. This decrease in price point is also expected to increase your customer base.

Although the EDjunior is inexpensive, it beats the competitors on most features – a comparative matrix follows. The EDjunior is without question the best value for simple instrumentation!

**What are the differences between the EDxtreme and the EDjunior?**

	EDXtreme	EDjunior
List price	starting at \$1240	under \$1000
Accuracy	0.1%	0.2%
Capacities	up to 100,000 lbf (50,000 kgf)	up to 10,000 lbf (5000 kgf)
Resolution	1:1000 or 5000	1:1000
RS-232	Yes	No
Remote display	Radio or wired	None
Protection	Anodize or Nickel-plate	Powder-coat paint
Custom units & units lock out	Yes	No
Carry case	Included	Accessory

**Which new dynamometer will sell better?**

The EDjunior should outsell the EDxtreme according to prior sales breakdown and given the attractiveness of the new value-priced dynamometer. However, we have not had such a feature filled product as we now have in the EDxtreme..... *“We will leave this one up to you!”*

**Is the EDjunior physically smaller than the EDxtreme?**

The “junior” refers to features, not size. Only the 2500-lbf (1000-kgf) EDjunior capacity is smaller. The other capacities are identical in length and headroom.

**How does the EDjunior compare against its competitors?**

Many customers simply want to view the live reading and perhaps retain the maximum reading. The Dillon EDjunior, MSI MSI-7200 and Intercomp TL-7200 are all suitable for this.

	Dillon EDjunior	MSI MSI-7200	Intercomp TL6000
Cost	<b>\$975 to \$995</b>	\$1150 to \$1495	\$1150 to \$1495
Accuracy	0.2% Full scale	<b>0.1% Full scale</b>	<b>0.1% Full scale</b>
Display	<b>Five 1.0” digits displays entire reading in full. Menus have easy-to-read text.</b>	Four 1.0” digit display uses “x10” annunciator for numbers over 9990. Menus are not intuitive.	Five 1.2” digit display Menus are not intuitive.
Display resolution	1 part in 1000	1 part in 1000	1 part in 1000
NEMA design	NEMA4X	NEMA4	NEMA4X
User’s manual	<b>Printed manual (PDF on web)</b>	on CDROM	Printed manual
Carry cases	<b>\$65 to \$120</b>	\$250	Price not listed
Finish	Powder-coat paint	Paint	Not published
Factor of safety	<b>7:1</b>	5:1	5:1
Battery life	320 hours	<b>500 hours</b>	<b>500 hours</b>
Peak hold	Yes	Yes	Yes
Units of measure	lbf, kgf, N	lbf, kgf, tons, tonne, dN	lbf, kgf, tons, tonne, dN
Temperature range	-20° to 60° C	-20° to 60° C	-20° to 60° C
Warranty	<b>2 years</b>	1 year	Not published

The EDjunior is equal or better in nearly every feature. This alone could make the EDjunior a better dynamometer. But at 20%-50% lower price and double the warranty, it is definitely the best value!

**How does the EDxtreme compare against the competition?**

	<b>Dillon EDXtreme</b>	<b>MSI MSI-7200</b>	<b>Intercomp TL-6000</b>
Industry ranking	<b>#1</b>	<b>#2</b>	<b>#3 (distant)</b>
Cost	\$1240-\$3250	\$1150-\$3250	\$1150-\$3150
Accuracy	0.1% Full scale	0.1% Full scale	0.1% Full scale
Display type	<b>Dot-graphic LCD display for superior text and off-angle viewability</b>	7-segment LCD with several custom annunciators	7-segment LCD with several custom annunciators
Characters	<b>Six easy-to read 1.0" digits displays entire reading in full. Menus have easy-to-read text.</b>	Four 1.0" digit display uses "x10" annunciator for numbers over 9990.	Five 1.2" digit display uses "x1000" annunciator where needed.
Backlight	<b>Available</b>	No	No
Display resolution	<b>1 part in 5000 enhanced</b>	1 part in 1000	1 part in 1000
Remote can be added easily later	<b>Yes – plug and play</b>	No – at time of order only	No – at time of order only
Computer connection to the dynamometer	<b>Yes</b>	No	Yes
NEMA design	NEMA4X	NEMA4	NEMA4X
Carry cases	<b>Included</b>	\$250 - \$325	Price not listed
User's manual	Printed with .PDF on web	on CDROM (pdf)	Printed manual
Finish	<b>Anodize or Electroless-nickel</b>	Paint	<b>Anodize or Brushed stainless</b>
Minimum factor of safety	<b>7:1 (aluminum) 5:1 (steel)</b>	5:1 (all)	5:1 (all)
Communicates with computer	<b>Yes</b>	No	<b>Yes</b>
Battery life	320 hours	<b>500 hours</b>	<b>500 hours</b>
Peak hold	Yes	Yes	Yes
Custom units of measure	<b>Yes - two</b>	No	No
Configurable units lock out	<b>Yes</b>	No	No
Temperature range	-20° to 60° C	-20° to 60° C	-20° to 60° C
Warranty	<b>2 years</b>	1 year	Not published
<b>Radio</b>			
Radio upgrade (pair)	\$1000	\$1080	\$1300
Type of technology	<b>2.4 GHz digital spread-spectrum automatically changes frequency</b>	916 MHz single frequency using - on-off keying (OOK).	Not published – presumably the same as the MSI-7200
Assigning addresses	<b>Through the front panel</b>	Change DIP switch settings on electronics.	Not published
Remote can control	<b>Up to 15 links per remote</b>	Only one link per remote	Not published
Number of remotes in same airspace	<b>Up to 63</b>	Up to 4	Not published
Send data from remote to computer	<b>Yes - standard</b>	Yes – add \$195	Not published
Battery life	40 hours	<b>100 hours</b>	Not published
Range (dependent on environment)	<b>Up to 300 feet*</b>	Up to 200 feet*	<b>Up to 300 feet*</b>
Sum several dynamometers	<b>Yes – all networking is standard</b>	No	No

**How is the new radio system better?**

This new radio technology is also used for wireless computer networks! These are becoming extremely popular because of their communications reliability and ability to have multiple networks active in the same airspace.

This radio system is called 2.4 GHz spread-spectrum technology and it operates by automatically changing frequency many times per second. By covering a large range of frequencies, it typically finds several bands of good communication. Thus overall communications reliability is improved.

The older 916 MHz solution is locked at one frequency. If there is interference in that range, the radio system does not function until the interference subsides.

***Is the EDxtreme and Communicator backward compatible with the ED-2000 and HR-2000?***

No. In order to make the EDxtreme the pinnacle of technology, we had to adopt changes that surpassed the abilities of the ED-2000. The radio technology and communication protocols are completely new. So a new Communicator does not work with an old ED-2000 and an old HR-2000 can not display readings from a new EDxtreme.

***Why is the user-configurable units of measure feature so great?***

Imagine:

- ✓ Compensate for local gravitational differences in weighing applications! or
- ✓ Automatically multiply by number of parts of line on a crane! or
- ✓ Use units that are not built-in, such as kip, ton, tonne or dyne! or
- ✓ Convert the force reading to stress, pressure, etc. (e.g. psi, lpi, or Pa)

The display shows the exact unit of measure and so do printouts!

The EDxtreme also has the ability to lock out various units of measure. A lifesaver for anyone that must not accidentally change to another unit of measure!

***Why do the low capacity EDxtremes require bearings?***

Recently we have found it much tougher to achieve accuracy specifications with Crosby forged shackle pins. The shape and rough texture of the low capacity shackle pins hinder the achievement of our high accuracy standards. As a result, we use machined shackle pins and bearings for the best mechanical performance you will find in any dynamometer.

***Are there crane scale versions of these products?***

Yes. They will be complete in the upcoming months and will be sent in a separate mailing.

***What service aids exist for this product?***

The EDxtreme, Communicator and EDjunior all have test menus that make diagnostics easier, whether on the phone or on the bench. For example, the EDxtreme conducts internal diagnostics on:

- ✓ A/D section
- ✓ Display
- ✓ Keypad
- ✓ Radio
- ✓ Battery
- ✓ Serial port

The EDxtreme and EDjunior also retain information about the calibration.

Our comprehensive service manual will be fully completed for you soon. It will include parts diagrams, procedures and troubleshooting. We will send notice the moment that we have it up on our website. In the meantime, our service technicians can answer any immediate questions that you may have.

***Can the instrument firmware be customized?***

Yes. We designed the EDxtreme, Communicator and EDjunior to be extremely configurable right out of the box. However there may be customers that need something unique from their systems. In higher volumes custom software may be a feasible solution to meet their individual needs.

***Do you have anything to help my local marketing and sales efforts?***

To assist your sales efforts, we have a great demo kit offer, plus presentations, brochures, specification sheets and more. Talk to your Dillon sales manager to find out what we can do for you!

***Have more questions? Want to learn more?***

We have a FAQ sheet with even more answers on our website in the distributor area.  
Or give us a call to see how we can help you!