

FLEXTEC® 650X

MULTI-PROCESS POWER FOR HEAVY DUTY APPLICATIONS



Shown:
K3425-1

SIMPLE. RELIABLE. FLEXIBLE.

This multi-process welder delivers up to 815 amps of welding power for a variety of applications, including construction, shipbuilding and heavy fabrication. Embedded CrossLinc® Technology drives welding control at the arc without an added cable to save costs, increase quality and enhance productivity and safety on the job site.

The world-ready Flextec® 650X will run on a wide range of available voltage input power and is IP23 rated for outdoor operation and storage. Broad wire feeder compatibility is not an issue – The Flextec 650X will operate with almost any Lincoln Electric® wire feeder or welding process.

Simple. Reliable. Flexible. Specify the Flextec 650X for your heavy duty applications.

Processes »

Stick, TIG, MIG, Flux-cored, Submerged Arc, Gouging

Product Number »

K3425-1 Base Model

Input »



Output »



KEY FEATURES

Simple

- » Easy one-knob weld process selection
- » Fast inverter arc response means smooth arc action and consistent bead appearance
- » User weld schedule memory storage allows easy recall of your critical or often repeated weld procedures with applicable feeders⁽¹⁾
- » Synergic single knob control over wire feed speed and voltage with applicable feeders⁽²⁾

Reliable

- » Components designed to run cool for long life in high temperature environments
- » Engineered for outdoor use and harsh environments (IP23 rated)
- » Desert Duty® Rated for extreme temperatures up to 55°C

Flexible

- » Ideal for large diameter wire or stick welding on thick materials
- » Compatible with most Lincoln Electric feeders, including common bench and boom models, portable across-the-arc models and CrossLinc® or ArcLink®-equipped models
- » ArcLink digital communication compatibility ensures the Flextec 650X remains 'future-proof' as new wire feeders are introduced
- » Premium arc characteristics on all DC wire, stick and TIG processes
- » Up to 815A for heavy arc gouging

CrossLinc® Technology Compatibility

- » Full functionality without control cables
- » Enables remote procedure setting at the feeder to improve weld quality
- » Increases arc time with fewer trips to the power source to adjust settings
- » Improves safety by reducing jobsite clutter

(1) User weld schedule memory settings available only with Power Feed® and Flex Feed® 84 wire feeders

(2) Synergic control available only with Power Feed wire feeders

FLEXIBILITY

Use the Flextec 650X with nearly any Lincoln Electric wire feeder or welding process.



CrossLinc (Lincoln Electric LN-25X model)

CrossLinc Technology communicates through a standard weld cable to enable voltage or current control at the arc without a control cable.



5-pin (Lincoln Electric Power Feed® models)

5-pin high-speed ArcLink® digital communication enables advanced wire feeder compatibility and additional operator controls. Allows compatibility with future wire feeder models.



14-pin (Lincoln Electric LF, LN and Flex Feed® models)

14-pin analog communication allows compatibility with most existing Lincoln Electric wire feeders.



Across-the-arc (Lincoln Electric LN-25 PRO / Activ8® models)

Across-the-arc feeders connect to the power source using the weld cables. This basic configuration does not use a control cable or CrossLinc Technology, so voltage control is only accessed at the welding power source.

WIRE FEEDER CAPABILITIES

Feeder Connection Type	Features					
	WFS Control	Voltage Control	Memories	Limits and Lockouts	Advanced U/I Controls ⁽³⁾	Synergic Modes ⁽⁴⁾
5-pin Digital (ArcLink)	•	•	•	•	•	•
14-pin Analog	•	•	•	•	•	
CrossLinc	•	•				
Across-the-arc	•					

(3) Advanced controls include pre-flow, post-flow, run-in, starting parameters, crater fill, burn back, spot timer and electronic trigger lock.

(4) Synergic Modes enable easy setup with one-knob output control for the system.

RECOMMENDED WIRE FEEDERS

Wire Feeder Model	Feeder Connection Type			
	Voltage Sensing/ Across-the-Arc	CrossLinc	14-pin Analog	5-pin Digital ArcLink
LN-25X	•	•		
Activ8®, LN-25, LN-25 PRO, LN-25 Pipe	•			
LN-25 PRO Dual Power	•		•	
LF-72, LF-74			•	
Flex Feed 74HT, Flex Feed 84			•	
Power Feed 84, Power Feed 25M				•
MAXsa® 10 ⁽⁵⁾ , 19 (Flextec 650X only)				•
LT-7 (Flextec 650X only)			•	

(5) MAXsa 10 K2814-4 or newer.

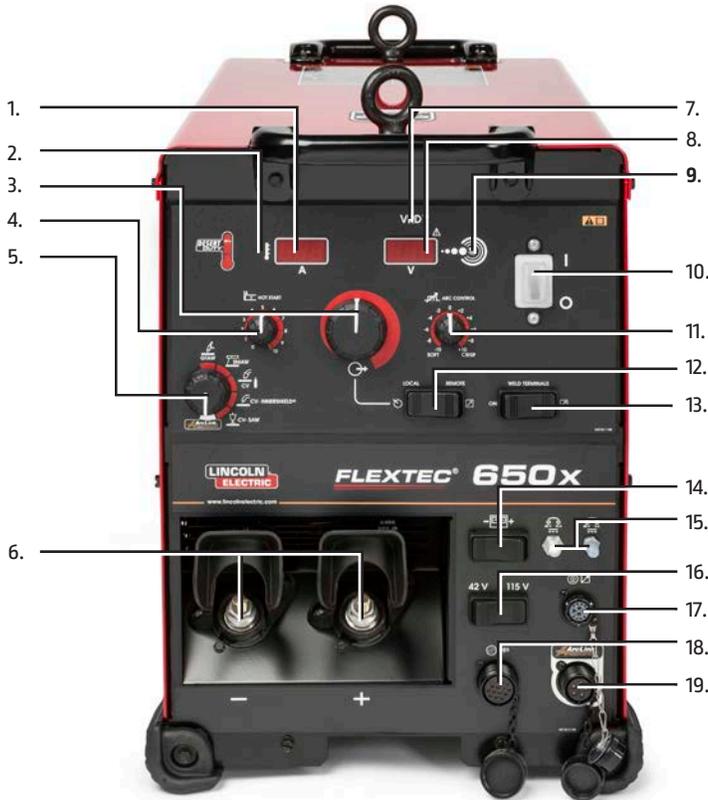
CROSSLINC TECHNOLOGY



- Full functionality without control cables
- Enables remote output setting at the arc to improve weld quality
- Increases arc time with fewer trips to the power source to adjust settings
- Improves safety by reducing jobsite clutter

Currently compatible with the LN-25X wire feeder (K4267-1) or CrossLinc Remote (K4345-1). CrossLinc Technology is currently built into the Flextec 350X and 650X models, the LN-25X feeder and the CrossLinc Remote.

KEY CONTROLS



1. Amperage Display Meter
2. Thermal LED
3. Output Control Dial
4. Hot Start Control Dial
5. Weld Process Selector Switch
6. Positive and Negative Welding Output Studs
7. VRD (Voltage Reduction Device) Indicator Light
8. Voltage Display Meter
9. **CrossLinc Indicator Light**
10. Power Switch
11. Arc Force Control Dial
12. Local/Remote Output Selector Switch
13. Weld Terminals On/Remote Selector Switch
14. Wire Feeder Voltmeter Polarity Selection Switch
15. Circuit Breaker Reset Buttons for 42V feeders and ArLink peripherals
16. 42V or 115V Wire Feeder Selector Switch
17. **Remote Output Control 12-pin Universal Connector**
18. 14-pin Wire Feeder Connector
19. **5-pin ArLink Connector**

SYSTEM SELECTION

Flextec 650X/LF-74 HD One-Pak®

- Flextec 650X [K3425-1]
- LF-74 Wire Feeder HD [K2426-5]
Includes 0.035 in. 0.045 in. [0.9/1.2 mm] reversible drive rolls
- Magnum® Pro Curve 400, 15 ft [K2952-2]
- Connector kit for 10 series feeders [K466-10]
- Liner .052-1/16, 15ft [KP44-116-15]
- Drive roll and guide tube kit 1/16 in [1.6 mm] cored [KP1505-1/16C]
- Weld cable lug to lug 3/0, 10 ft [K1842-10]
- Work lead pkg. 4/0, 15 ft, GC500 [K2149-1]
- Flowmeter/regulator 355-2AR-58010 [3100211]

Order K3513-1

Flextec 650X 4-Pack Rack

- Flextec 650X Rack w/o machines
- Flextec 650X [4 ea.] [K3425-1]

Order K3510-1

Flextec 650X/Flex Feed 84 One-Pak

- Flextec 650X [K3425-1]
- Flex Feed 84 Single Bench HD [K5000-2]
- Magnum Pro Curve 400, 15 ft [K2952-2]
- Connector kit for 10 series feeders [K466-10]
- Liner .052-1/16, 15 ft [KP44-116-15]
- Drive roll and guide tube kit 1/16 in [1.6 mm] cored [KP1505-1/16C]
- Weld cable lug to lug 3/0, 10 ft [K1842-10]
- Work lead pkg. 4/0, 15 ft, GC500 [K2149-1]
- Flowmeter/regulator 355-2AR-58010 [3100211]

Order K3514-1

Flextec 650X/LF-72 Ready-Pak®

- Flextec 650X [K3425-1]
- LF-72 wire feeder (heavy duty, no gun) [K2327-7]
Includes 0.035 in. 0.045 in. [0.9/1.2 mm] reversible drive rolls
- Magnum PRO Curve 400 gun package [15 ft] [K2952-2-10-45]
- Drive roll and guide tube kit 0.045 in [1.2 mm] solid wire [KP1696-045S]
- Weld cable lug to lug 3/0, 10 ft [K1842-10]
- Work lead pkg. 4/0, 15 ft, GC500 [K2149-1]
- Flowmeter/regulator 355-2AR-58010 [3100211]
- Inverter and wire feeder cart [K3059-4]

Order K3511-1

Flextec 650X/CE Filter One-Pak

- Flextec 650X [K3425-1]
- 650X CE Filter [K3129-1]

Order K3515-1

Flextec 650X/LF-74 Ready-Pak

- Flextec 650X [K3425-1]
- LF-74 wire feeder (heavy duty) [K2426-5]
Includes 0.035 in. 0.045 in. [0.9/1.2 mm] reversible drive rolls
- Magnum PRO Curve 400, 15 ft [K2952-2]
- Connector kit for 10 series feeders [K466-10]
- Liner, 052-1/16, 15 ft gun [KP44-116-15]
- Drive roll, 1.6 mm cored [KP1505-1/16C]
- Weld cable lug to lug 3/0, 10 ft [K1842-10]
- Work lead pkg. 4/0, 15 ft, GC500 [K2149-1]
- Flowmeter/regulator 355-2AR-58010 [3100211]
- Inverter and wire feeder cart [K3059-4]

Order K3512-1

RECOMMENDED ACCESSORIES

General



Work Lead Package
Lug to Lug, 4/0 cable with GC500 work clamp. 15 ft (4.6 m) length
Order
K2149-1



3/0 Welding Cable
Lug to Lug, 3/0, 600A, 60% duty cycle, 10 ft (3.0 m)
Order
K1842-10



Accessory Kit for Stick Welding
Includes 35ft. (10.7m) 2/0 electrode cable with lug, 30ft. (9.1m) 2/0 work cable with lugs, heatshield, filter plate, cover plate, work clamp and electrode holder. 400A capacity.
Order
K704



Harris® Model 355 Flowmeter Regulator and Hose
Includes 10 ft (3.0 m) hose
Order
3100211



Remote Output Control with 12-pin Universal Connector (25 ft/7.6 m)
Permits remote adjustment of output
Order
K857-2



12-pin to 6-pin Adapter
Allows 6-pin remote controls (K870, K963-3, K857, K4217-1) to be used with 12-pin Universal Connection
Order K2909-1



Multi-Process Switch
Easily change welding process and polarity without changing cables at the machine.
Order
K3091-1



Single Cylinder Inverter and Wire Feeder Cart
Requires K4068-1 mounting bracket for LF, Flex Feed and Power Feed Feeders. Requires locking foot kit.
Order
K3059-4



Dual Cylinder Inverter and Wire Feeder Cart
Requires K4068-1 mounting bracket for LF, Flex Feed and Power Feed Feeders. Requires locking foot kit
Order
K3059-5



Inverter Cart Mounting Bracket Kit
Use for mounting Flex Feed or Power Feed feeder to the K3059-4 and K3059-5 inverter carts
Order
K4068-1



GFCI Kit
UL-approved 120V ground fault circuit interrupter replaces existing non-GFCI receptacle.
Order
K3157-1



Flextec® 650 CE Filter Kit (380-575 VAC)
Order
K3129-1



Fume Extraction Systems
See E13.40



TIG
Pro-Torch™ TIG Torches - PTA-9, PTA-17, PTA-26 – 2 piece power cord
See Bulletin E12.150



Wireless Foot Pedal with 6-pin Amphenol®
Permits remote adjustment of output. Requires K2909-1 12-pin to 6-pin adapter.
Order
K4217-1



Foot Amptrol with 12-pin Amphenol connector (25 ft)
Remote current control for TIG welding
Order
K870-2



Hand Amptrol™ Rotary Track Style, 12-pin Amphenol (25 ft)
Remote current control for TIG welding
Order
K963-4



Arc Start Switch (6-pin)
K2909-1 12-pin to 6-pin adapter required
Order
K814



CrossLinc Remote
Use with any CrossLinc-equipped Flextec welder to adjust welding setting remotely at the arc, including current for stick or TIG welding. Also compatible with some across-the-arc wire feeders such as (Activ8, LN-25, LN-25 Pro without digital meters) See Publication MC16-137
Order
K4345-1



Wire Feeders and Guns
LN-25X
Includes CrossLinc communication technology. Also functions as an across-the-arc feeder. See Publication E8.101
Order
K4267-1



LN-25 PRO Dual Power
Includes 14 pin connection for direct connection to the power source. Also functions as an across-the-arc feeder. See Publication E8.101
Order
K2614-6



Flex Feed® 74 HT
Four drive-roll, high-torque, industrial semiautomatic wire feeder for general/structural fabrication. See Publication E8.203
Order
K3883-13



Flex Feed 84 Single Bench
Four drive roll feeder with heavy duty wire reel stand for general/structural fabrication. Includes memory selection. See Publication E8.205
Order
K5000-2



Flex Feed 84 Dual Bench
Four drive roll feeder with heavy duty wire reel stand and contactor for general/structural fabrication. See Publication E8.205
Order
K5002-2

RECOMMENDED ACCESSORIES CONTINUED



LF-72 Bench Model, with Heavy Duty Wire Reel Stand
Two drive roll feeder designed for MIG and cored wire welding in job shop and manufacturing environments. See Publication E8.11
Order
K2327-7



Power Feed 84, Heavy Duty Wire Reel Stand, U/I, USB
Four drive roll, digital ArcLink semiautomatic industrial wire feeder built on a modular platform to be used in a variety of applications. see publication E8.205
Order
K3328-13



Magnum PRO Curve 400 Gun and Cable Assembly
For MIG or flux-cored welding. Includes Tweco-style back-end connector kit, liner, diffuser, nozzle, contact tip fully assembled
Order
K2952-2-10-45



LF-74 Bench Model, Heavy Duty Wire Reel Stand
Four drive roll feeder designed for MIG and cored wire welding in job shop and manufacturing environments. see publication E8.11
Order
K2426-5



Magnum PRO Curve 300 Gun and Cable Ready-Pak - 15 ft (4.5 m)
For MIG or flux-cored welding. Includes Tweco-style back-end connector kit, liner, diffuser, nozzle, contact tip fully assembled
Order
K2951-2-10-45

For additional Magnum PRO Guns and Accessories – See publication E12.05

FLEXTEC 650X - SPECIFICATIONS

Description	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x L in (mm)	Weight lb (kg)
Flextec 650X	K3425-1	380/460/575/3/50/60	750A/44V/60%	61/50/40	10-815A	21.8 x 16.1 x 29.3 (554 x 410 x 745)	165 (74.8)
			650A/44V/100%	57/47/38			

The operation of welding fume control equipment is affected by various factors including proper use and positioning of the equipment, maintenance of the equipment and the specific welding procedure and application involved. Worker exposure level should be checked upon installation and periodically thereafter to be certain it is within applicable OSHA PEL and ACGIH TLV limits.

CUSTOMER ASSISTANCE POLICY

The business of The Lincoln Electric Company® is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

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