

# FLEXTEC® 650X

Multi-process power for heavy duty applications.



## 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

### Applications

Fabrication, Shipbuilding, Construction

### Input



### Output



### Product Number

K3533-1 CE Model

# 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 including older and new common bench and boom models, portable across-the-arc models and CrossLinc Technology 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
- Large output range: 10-815A allows you to weld 20 ga stainless all the way through gouging with 1/2 in. carbons.
- 115VAC duplex receptacle to power tools, lights, and accessories.

## CrossLinc Technology Compatibility

- When this machine is paired with a CrossLinc technology enabled accessory, many benefits are unlocked.
- 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.



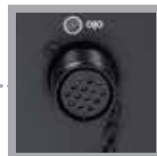
**CrossLinc®**  
(Lincoln Electric LN-25X model)

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.

## CROSSLINC TECHNOLOGY



**CrossLinc w/True Voltage Technology (TVT)** – Improve all aspects of your operation with CrossLinc Technology and TVT.

### Safety

- Reduce jobsite clutter by removing cumbersome control cables.
- Eliminate unnecessary movement of personnel across the jobsite.
- No need to drag heavy control cables around the site.

### Quality

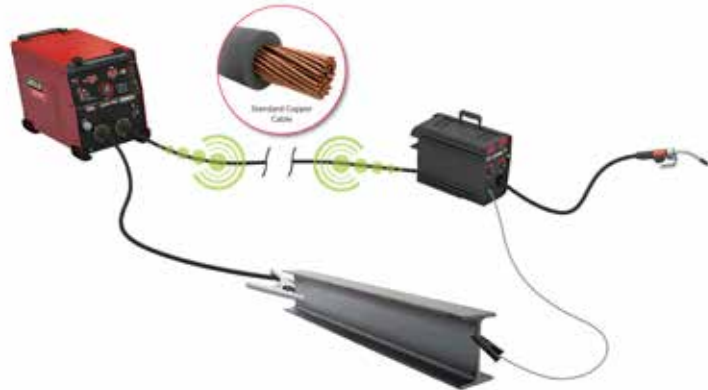
- Full output control at the arc results in the correct settings for every weld.
- True Voltage Technology (TVT) accurately compensates for voltage drop across long cable runs.
- Eliminate unintentional machine adjustments by helpers or other operators.

### Productivity

- Setup faster with fewer cable connections.
- Eliminate trips to the power source to make procedure adjustments.
- Minimize rework with easy settings adjustments.

### Crosslinc Technology Communicates Settings Directly Over The Weld Cables.

- No additional control cable is needed.
- Pre-set the desired voltage on the feeder.
- The feeder sends the signal to the CrossLinc enabled power source.
- The CrossLinc compatible power source puts out the desired voltage.
- The Activ8X receives the voltage and lets you know the actual voltage at the arc.

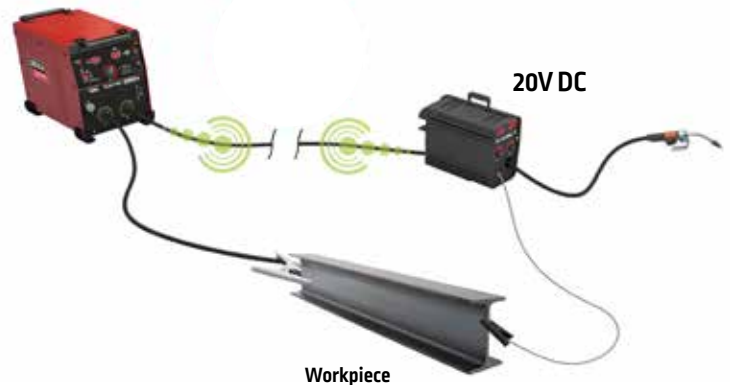


## TRUE VOLTAGE TECHNOLOGY (TVT)



As is common in many outdoor welding applications: (Structural steel, Shipbuilding, Offshore, etc.) the operator can be located hundreds of feet away from the power source. Long cables and multiple connections can create a difference in voltage (voltage drop) between the power source and the weld. In the example to the right, 24volts is set on the welding power source. Due to electrical resistance through long cables, only 20volts are actually available at the arc. This may result in a cold weld.

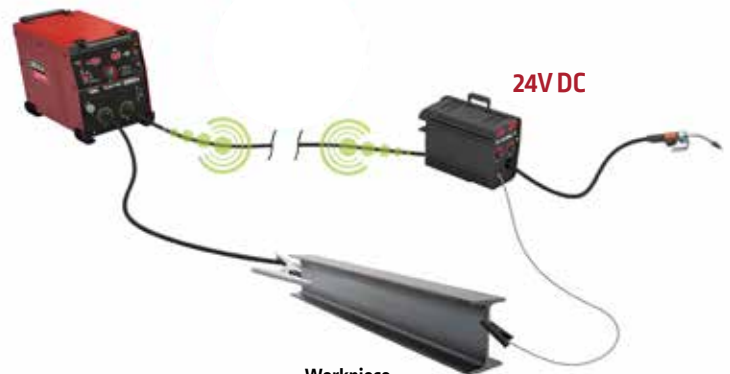
24V DC



Workpiece

True Voltage Technology (TVT) sees this drop and gives you the true voltage you set by adjusting the power source to compensate for the voltage drop. In the example below, 24v is preset at the Activ8X wire feeder. TVT senses there is a 4 volt drop due to long weld cables and compensates by increasing the welder output to 28V. The result is the desired 24v available at the welding arc.

28V DC



Workpiece

## FLEXTEC 650X 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 ArcLink 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 ArcLink Connector
20. Input cord strain relief
21. 115VAC duplex receptacle





**Weld Power Cable  
Twist Mate to Twist Mate**

K14166-1 (70MM2-10M)  
K14166-2 (70MM2-15M)  
K14166-3 (70MM2-5M)  
K14166-4 (70MM2-30M)  
K14167-1 (95MM2-30M)  
K14167-2 (95MM2-5M)  
K14167-3 (95MM2-10M)  
K14167-4 (95MM2-15M)



**GRD-400A-70-xM\***  
Ground cable 400A 70 mm<sup>2</sup>; x=5/10/15 m



**E/H-400A-70-xM\***  
Electrode holder 400A/70mm<sup>2</sup>; x=5/10m



**K2909-1**  
12-pin to 6-pin Adapter



**K857-2**  
12-pin Remote Output Control



**K3059-4**  
Inverter and Wire Feeder Cart



**K4424-1**  
Flextec 350x Locking Foot Kit



**K4068-1**  
Inverter Cart Mounting Kit  
(required to secure Power Feed®  
and Flex Feed™ feeders on the cart)



**K10095-1-15M**  
Remote control (6PIN, 15m)



**K10398**  
Extension cable for remote control box K10095-1-15M



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



**K10376**  
Adapter M14/Dinse (F)

## SPECIFICATIONS

| Product Name          | Product Number | Input Power Voltage/Phase/Hertz | Rated Output Current/Voltage/Duty Cycle | Input Current @ Rated Output | Output Range | H x W x L in (mm)                       | Net Weight lb (kg) |
|-----------------------|----------------|---------------------------------|---|------------------------------|--------------|---|--------------------|
| Flextec 650X CE Model | K3533-1        | 380/460/575/3/50/60             | 750A/44V/60%                            | 61/50/40                     | 10-815A      | 21.8 x 16.1 x 29.3<br>(554 x 410 x 745) | 165<br>(74.8)      |
|                       |                |                                 | 650A/44V/100%                           | 57/47/38                     |              |   |                    |

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