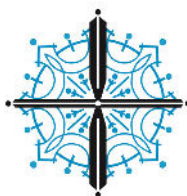




DEP 600

USER MANUAL



T. J. SNOW

HELPING CUSTOMERS SUCCEED
WITH RESISTANCE WELDING

Manual Revision: 1.1
Modified: 1/14/20

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REGARDING THIS DOCUMENTATION

This documentation is written to provide configuration instructions for WTC hand held terminal- DEP600. This manual does not give instructions for creating applications that run on the weld controls.

It has been designed for planning, programming, start-up personnel, operators, service technicians, plant operators, line builders and maintenance personnel to assist with procedures related to installing and communicating with the weld control.

Screen shots of the software applications used in this manual are for illustrative purpose only. Because of the many variables and requirements associate with any particular weld control, WTC cannot assume responsibility or liability for actual use based on the examples.

Reproduction of the contents of this manual, in whole or in part, without written permission of WTC is prohibited.

SOFTWARE UPDATES

WTC reserves the right to make substitutions or changes as required to the hardware or software described in this manual.

This manual may be periodically updated to reflect software changes that will affect operation of the equipment described. Request copies of latest updates by contacting your sales representative.

REVISION HISTORY

REVISION	REL. DATE	COMMENTS
V1.0	07/25/19	Initial release of Manual M-035600 to support DEP600.
V1.1	01/14/20	Added functionality explained: Upgrade , Graphs and changing IP address.

LANGUAGES AVAILABLE

This documentation was originally published in English.

SYMBOLS USED IN THIS DOCUMENTATION

The following symbols are used to identify safety instructions.

Danger!



THIS SYMBOL WILL BE USED WHEREVER FAILURE TO OBSERVE SAFETY MEASURES MAY RESULT IN DEATH, SEVERE BODILY INJURY OR SERIOUS DAMAGE TO PROPERTY.

WARNING!



THIS SYMBOL WILL BE USED WHEREVER INSUFFICIENT OR LACKING COMPLIANCE WITH INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

Caution:



THIS SYMBOL DENOTES WHEN INSUFFICIENT OR LACKING COMPLIANCE WITH INSTRUCTIONS MAY DAMAGE EQUIPMENT OR FILES.

NOTE:

THIS SYMBOL INFORMS THE USER ABOUT SPECIAL FEATURES, OR WHERE TO FIND MORE INFORMATION.



THIS SYMBOL DRAWS ATTENTION TO SPECIFIC INSTRUCTIONS OR PRODUCT FEATURES.



THIS SYMBOL WILL BE USED TO NOTIFY THE OPERATOR WHEN AN OPERATION REQUIRES ESD SAFETY PRECAUTIONS TO BE FOLLOWED. FAILURE TO FOLLOW ESD PRECAUTIONS WHEN PERFORMING CERTAIN PROCEDURES MAY DAMAGE THE EQUIPMENT AND VOID THE WARRANTY



THIS SYMBOL INDICATES THAT ONLY WTC SERVICE PERSONNEL OR WTC REPAIR PARTNERS SHOULD SERVICE OR OPEN THIS DEVICE. BREAKING A WARRANTY SEAL WILL VOID THE WARRANTY OF THIS DEVICE

COMMON TECHNIQUES USED IN THIS MANUAL

The following conventions are used throughout this manual:

- Bulleted lists such as this one provide information, not procedural steps.
- 1. Numbered lists provide sequential steps or hierarchical information.

Italic type is used for emphasis.

WTC SUPPORT - INDUSTRIAL TECHNICAL SERVICES [ITS]

WTC tests all of our products to ensure that they are fully operational when shipped from the manufacturing facility. If you need assistance please contact Customer Support (see the table below); our trained technical specialists are available to help. When emailing please provide a photograph of the serial tag and Hardware Status Screen on the DEP600 if possible.

If the product is not functioning and needs to be returned, contact your distributor. You must provide a Customer Support case number to your distributor in order to complete the return process.

Phone	United States/Canada	1.248.477.3900
Internet	Worldwide	www.weldtechcorp.com/service-repairs.html

WORKING WITH STATIC-SENSITIVE DEVICES

ESD COSTS!



Electrostatic discharge (ESD) can ignite flammable materials and damage electronic components. Static electricity can attract contaminants in clean environments or cause products to stick together. Other costs of ESD-damaged electronic devices are in their replacement and production down time. Associated costs of repair and rework, shipping, labor and overhead can be significant. Reducing losses to ESD and static electricity is an ABSOLUTE NECESSITY.

NEVER use the personnel grounding system described below when working with voltages above 220 VAC.

PERSONNEL GROUNDING



BEFORE TOUCHING ANY ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES OR CIRCUIT BOARDS, PUT ON AND WEAR AN ELECTROSTATIC DISCHARGE (ESD) WRIST STRAP. GROUND THIS STRAP THROUGH A ONE MEGOHM (1 MΩ) RESISTOR.

For detailed information about ESD contact: WTC Industrial Technical Services
 Phone: +1 248-477-3900 | Fax: +1 248-477-8897
 Email: service@weldtechcorp.com
 Website: www.weldtechcorp.com

HOW TO GET HELP AND SUPPORT

For technical support, contact WTC's Industrial Technical Services department. Please have the following information available:

YOUR CONTACT INFORMATION:

- Company Name
- Phone Number
- Fax Number
- Email Address

WELD CONTROL PART NUMBER AND SERIAL NUMBER

- Located on the serial tag on the outside of the cabinet

WELD TIMER AND DEP 600 FIRMWARE AND REVISIONS

- The weld timer firmware revision is located in the Hardware Status Screen.
- The DEP600 firmware revision is located in the DEP Upgrade Screen.

DESCRIPTION OF PROBLEM

- Faults and Alerts
- Mechanical and Electrical Issues
- Weld Quality Issues

Chapter 1: OVERVIEW OF THE DEP600

The WTC DEP600 Data Entry Panel is a portable, hand-held, programming device, used to communicate with WTC weld controls through Serial or EtherNet connection. It can communicate with up to 30 WTC weld controls through a network connection.

The DEP600 allows the user to program weld schedules, set-up parameters and stepper profiles, then download the information to the weld control. It also receives weld data summary uploaded by the weld timer and displays weld results and graphs.

When power is applied to the DEP600, the Home screen is displayed, which allows the user to connect to an active weld control via:

- Global EtherNet Network
- Serial (RS-485) Network

When connected via the Global EtherNet IP network, the DEP600 polls the network for active devices. Each active device responds with information about itself, which includes IP address, welder ID and status. At this point, the user can select the weld control to connect to.

THIS MANUAL PROVIDES INSTRUCTION ON THE FOLLOWING TOPICS:

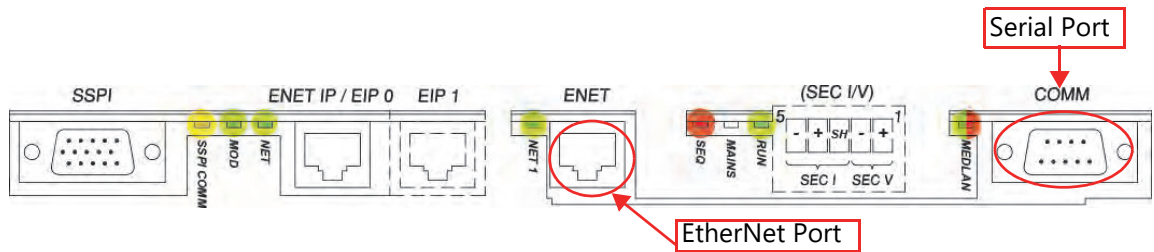
- Menu Navigation
- Network Configuration and Connectivity
- Review and Edit Weld Schedules
- Review and Configure Fault and Setup Parameters
- Review and Configure Linear Current Stepper Profiles
- Fault and Stepper Reset
- I/O Mapping and Status
- Update and Back-up

Each weld control functions independently. The data displayed by the DEP600 for each weld control varies, depending on the software and control specific features.

NOTE: LCD DISPLAY IMAGES IN THIS MANUAL ARE USED AS EXAMPLES ONLY TO PROVIDE INSTRUCTION ON THE USE OF THE DEP600. ACTUAL FEATURES AND PARAMETERS VIEWED ON THE DEP600 MAY VARY DEPENDING ON THE CUSTOMER'S APPLICATION REQUIREMENTS AND THE SOFTWARE LOADED INTO THE WELD CONTROL. IF ASSISTANCE IS REQUIRED IN THE USE OF THIS PRODUCT, PLEASE CONTACT WTC.

PHYSICAL CONNECTIONS

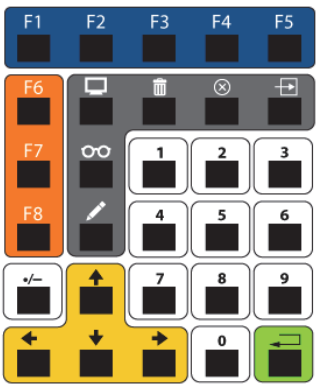
ON THE WELD TIMER



DEP PORT ON THE CONTROL DOOR



KEYPAD LAYOUT

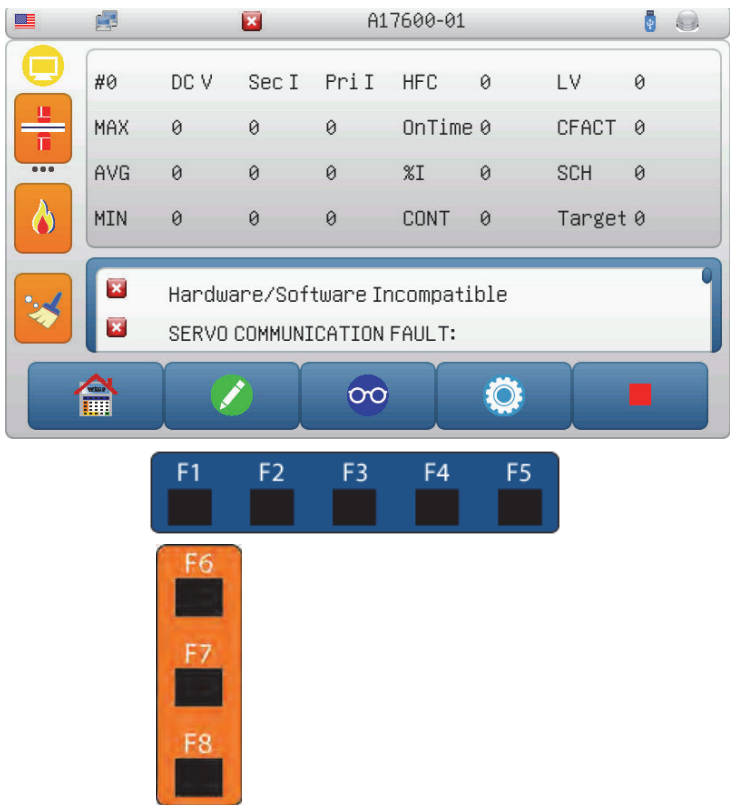


THE FOLLOWING DESCRIBES THE KEY FUNCTIONS OF THE DEP600:

FUNCTION KEYS	<div><div>F1F2F3F4F5</div><div></div></div>
	<div><div>F6F7F8</div><div></div></div>

The five F-number keys located at the top of the keypad, are used to perform various functions that correspond with the menu items displayed on the DEP.

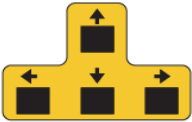

EXAMPLE 1:



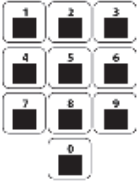

In the Home Menu above, there are five functions displayed at the bottom of the screen and three function items on the left hand side. The user can select any of these functions by pressing the corresponding blue or orange function keys located on the keypad.

MOVEMENT AND SELECTION KEYS:


The directional arrows keys are used to both move the cursor and scroll through displays.

	<p>UP, DOWN, LEFT, RIGHT: These keys move the cursor within data fields on the display.</p> <p>UP, DOWN also used for toggle action.</p> <p>LEFT, RIGHT also used for moving between fields..</p>
	<p>Enter: This key is used to execute a command or operation.</p>

NUMERIC KEYS:

	The numeric keys are used to change the numeric parameters of programmable functions and features.
	Decimal and minus key. This is field selective and .

QUICK ACTION KEYS:

	These keys allow the user one-touch, quick access to the Display Screen, Delete an item, Cancel an item, Insert a value, check the Status or launch the Edit menu.
---	--

Chapter 2: GETTING STARTED



A. View and configure the DEP system settings	B. Select the network method through which the DEP will connect to a weld control	C. Connect to the weld control via the serial network
--	--	--

Upon power-up, the Home Menu is displayed. This screen allows the user to select the above three options by pressing icons on the screen or the corresponding keys as depicted below.



A. DEP CONFIGURATION






When the DEP Configuration  [F1] key is pressed in the Home Menu, the following screen is displayed:



MAC ADDRESS	This address is a fixed value and cannot be changed.
IP ADDRESS	This line shows the unique IP address of the DEP.
NET MASK	This line displays the Subnet information the DEP is connected over.
GATEWAY	Field for the Gateway Address.
DHCP	Set to OFF by default. If DHCP is ON, and you plan to program an address, change the value to OFF.


NOTE: To change the settings of the IP Address, Subnet Address and Gateway Address refer to the procedures on Pages page 13.

FUNCTIONS MENU:

	HOME: Returns the user back to the Home Menu.
	DOWNLOAD/REBOOT: After editing the System Settings, this key allows the user to save the changes to DEP memory and then reboot the DEP for the changes to take effect. Color change to yellow alerts the user to save.
	LANGUAGE: Scroll through the flags to select language for DEP600
	FILE MAINTENANCE: Allows the user to copy files from USB to DEP flash memory and vice-versa. For more information, see "Backup / Restore" on page 14
	Update DEP: Update DEP600 firmware.

CHANGING THE IP ADDRESS, SUBNET ADDRESS OR GATEWAY ADDRESS:



- ① Use the arrow keys or select the field by touch, to navigate to address line that will be edited.
- ② Press numeric keys 0-9 to enter the new value.
- ③ Press  to save the change.
- ④ Repeat the process for any additional fields to be edited.
- ⑤ After the changes have been made, you will be prompted to cycle power for the change to take effect.

BACKUP / RESTORE

The Backup / Restore feature allows the user to transfer data files between weld timers. The DE600 is capable of uploading and storing up to 50 weld timer programs in flash memory and then restoring (downloading) them into other weld timers.



BEFORE INITIATING A BACKUP REFRESH THE WELD CONTROL TO ENSURE THE BACKUP RECORDS ALL CURRENT SETUP AND CONFIGURATION.



NOTE: IN ORDER TO TRANSFER DATA FROM ONE WELD TIMER TO ANOTHER, BOTH WELD TIMERS MUST HAVE THE SAME FIRMWARE PROGRAM AND REVISION NUMBERS.



NOTE: ALWAYS CONFIGURE THE WELD TIMER TO THE DESIRED TIMING (CYCLE/MS) PRIOR TO PERFORMING A RESTORE. FOR EXAMPLE, MSEC DATA FROM A WELD TIMER THAT IS BEING RESTORED TO ONE THAT WAS PREVIOUSLY CONFIGURED FOR CYCLE TIMING WILL NOT CONVERT TO MSEC. AND THE VALUES DISPLAYED MAY BE ERRONEOUS.

THE FOLLOWING LISTS WHAT WELD TIMER PARAMETERS ARE BACKED-UP AND RESTORED:






PARAMETER	BACKUP	RESTORE
Welder ID	●	●
Schedule	●	●
Setup	●	●
Linear Steppers	●	●
FieldBus Mapping	●	●
EIP Mapping	●	●
EIP Config	●	●
MEDLAN Address	●	●
Local Ethernet	●	●
Spot Assignments	●	●
Program ID	●	●

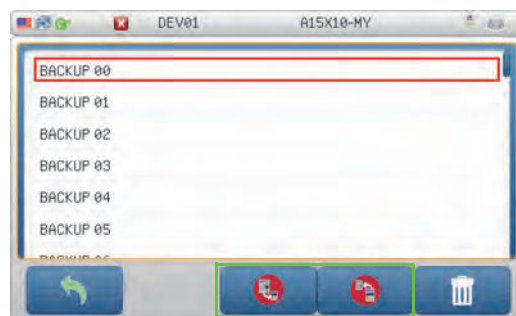
NOTE:

BACKUP EXCLUDES ALL SOFTQ, FORCEQ AND **RAFT** DATA.

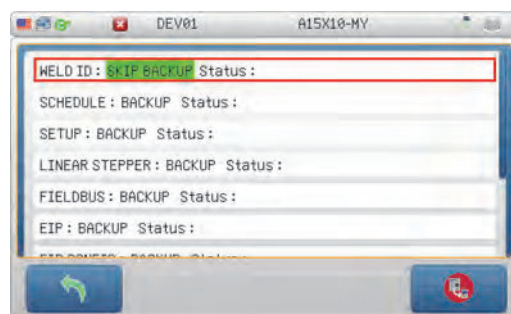
CREATING A BACKUP:

To backup data from a weld timer, follow the procedure below.


- ① Connect the DEP600 into the weld timer's RS-485/RJ-45 Serial/EtherNet communications port. For instructions on how to connect the DEP600 to a weld timer for Serial network communications, see "Physical Connections" on page 7.
- ② Press F3 /  to select Ethernet or F5 /  to select Serial Communication from the Home Menu and connect the DEP600 to weld control.
- ③ From the Main Menu press F4/  to select Configuration and press  to navigate to Backup / Restore Menu 



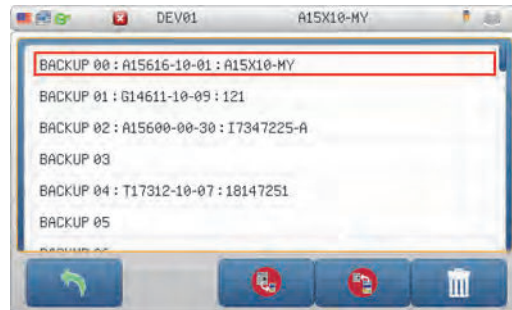
- ④ Select from options Backup to DEP or Restore from DEP



- ⑤ The user has the option to back-up/restore the complete list of items displayed or "Skip Backup" of items not required.

By default, all 10 parameters are selected for backup. To deselect a field, use the touch screen or arrow keys ↓ ↑ to navigate to the parameter not required for backup and press enter key . The field is highlighted green.

Use the ↓ arrow to scroll through the options: Backup/Skip Backup and press enter to make the change.




NOTE: IF A MEMORY LOCATION IS SELECTED, WHICH ALREADY HAS A DATA FILE STORED IN IT, THE OLD DATA FILE WILL BE PERMANENTLY DELETED WHEN THE BACKUP PROCESS BEGINS. THEREFORE, CONFIRM IF THE OLD DATA FILE IS TO BE OVERWRITTEN PRIOR TO PRESSING BACKUP.

NOTE: PRIOR TO RESTORING A BACKED-UP DATA FILE TO ANOTHER WELD TIMER, THE DEP CABLE MUST BE PLUGGED DIRECTLY INTO THE SERIAL PORT OF THE WELD TIMER THAT IS TO BE RESTORED.

DEFAULT RESTORE SKIPS FIELD BUS MAPPING, EIP MAPPING, EIP CONFIGURATION, MEDLAN ADDRESS AND LOCAL ETHERNET. TO RESTORE THESE ITEMS, MANUALLY SELECT FROM THE LIST.

CLEAR A DATA FILE FROM A MEMORY LOCATION:

From the Backup / Restore Menu, navigate to the memory location to be cleared press the  icon.

NOTE: THE DEP600 DOES NOT BACKUP/RESTORE **RAFT™** DATA.

B. NETWORK COMMUNICATIONS

The DEP600 can connect to a weld timer via three separate networks: Local EtherNet, Global EtherNet and Serial Network. to select the method of communication:




Slide the selector switch to Local EtherNet or Global EtherNet for the desired connection using the touch screen or press



key to toggle between the two options.



Press  Save to confirm the change. The DEP will reboot for the selection to take effect.



Default serial device number is displayed in DEV field. If the device/weld control is not found at that address the system reverts back to the serial list. Red border indicates the selection is locked. To change, use the toggle switch.

LOCAL ETHERNET

In the Local EtherNet mode, the DEP is programmed to communicate directly with the "local" weld control that it is physically connected to. In this mode, the DEP will only communicate to a local weld control with a default IP Address of 89.89.200.250.



For information, see "CHANGING THE IP ADDRESS, SUBNET ADDRESS OR GATEWAY ADDRESS:" on page 13.

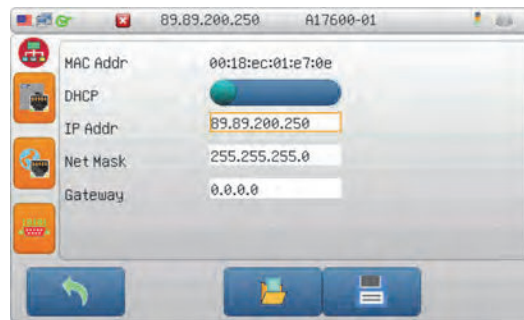
For instructions on how to physically connect the DEP600 to a weld timer using Local Ethernet communications, see "Physical Connections" on page 7.



NOTE: LOCAL ETHERNET  IS DISPLAYED ON THE HOME SCREEN WHEN CONNECTED VIA LOCAL ETHERNET.

CHANGING THE LOCAL ETHERNET IP ADDRESS VIA SERIAL NETWORK:

- ① Select  Configuration [F4] and then  Network Configuration.



- ② To change the IP address, select the IP address field by tapping once or press the → arrow and enter the new address using the keypad.

GLOBAL ETHERNET



To connect via Global Ethernet, slide the selector switch to Global Ethernet, press save and restart.



NOTE: GLOBAL ETHERNET  IS DISPLAYED ON THE HOME SCREEN WHEN CONNECTED VIA GLOBAL ETHERNET.

In the Global Ethernet mode, the DEP600 is capable of communicating with multiple weld timers on an Ethernet IP network.

In order to communicate in Global Ethernet mode, the IP Address and Subnet Mask of the weld timers must be set correctly. This is determined by the plant network administrator. For instructions on how to physically connect the DEP 600 to a weld timer for Global Ethernet IP communications, see "Physical Connections" on page 7.



IP ADDRESS SET ON THE GLOBAL NETWORK WILL CHANGE BACK TO THE DEFAULT 89.89.200.250 WHEN THE LOCAL ETHERNET KEY IS PRESSED TO COMMUNICATE WITH THE TIMER.

METHOD 1:

The DEP600 sends out a special command to all the devices within the Subnet Mask, which effectively is a request for all WTC weld timers to report to the DEP and confirm they are active and identify their IP Address. When the active timers respond, their IP Address and Welder ID will populate the fields in the weld control selection list

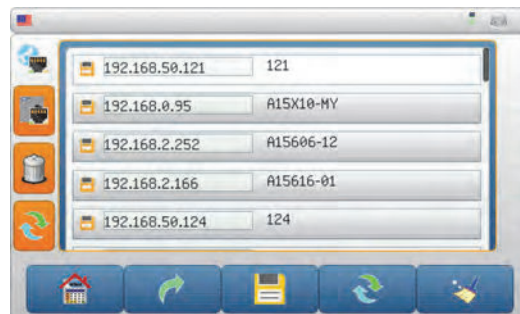



Figure 2.1 Screen showing list of weld controls available on a Global Ethernet Network.

Use the touch screen or arrows on keypad to select from the list of all the active weld controls identified by their IP Address and Welder ID. Press  or F2 to connect the desired weld control.


METHOD 2:

The weld control IP Address is manually added by the user. The DEP will then send a communication message to that IP Address on the network. If the gateway and routers on the network allow the DEP to communicate with that IP Address, then communication will be established. This method is recommended when trying to find a weld timer that is on the network, but located within a different Subnet Mask than the DEP.



NOTE: THIS FEATURE IS ONLY AVAILABLE WHEN THE DEP600 IS CONNECTED TO THE GLOBAL ETHERNET. IF THE DEP600 IS CONNECTED VIA THE LOCAL ETHERNET OR THE SERIAL NETWORK, THIS FEATURE IS INACCESSIBLE.



NOTE: PRESSING SAVE  AFTER THE WELD CONTROLS ARE ADDED TO THE LIST EITHER MANUALLY OR BY SCANNING THE GLOBAL ETHERNET, ALLOWS THE USER TO QUICKLY CONNECT TO OR VIEW THE LIST OF WELD CONTROLS AVAILABLE ON THE NETWORK WHEN THE DEP600 IS RECONNECTED.

C. SERIAL NETWORK



To connect to a weld control via a serial connection, press F5 or select the icon on screen.

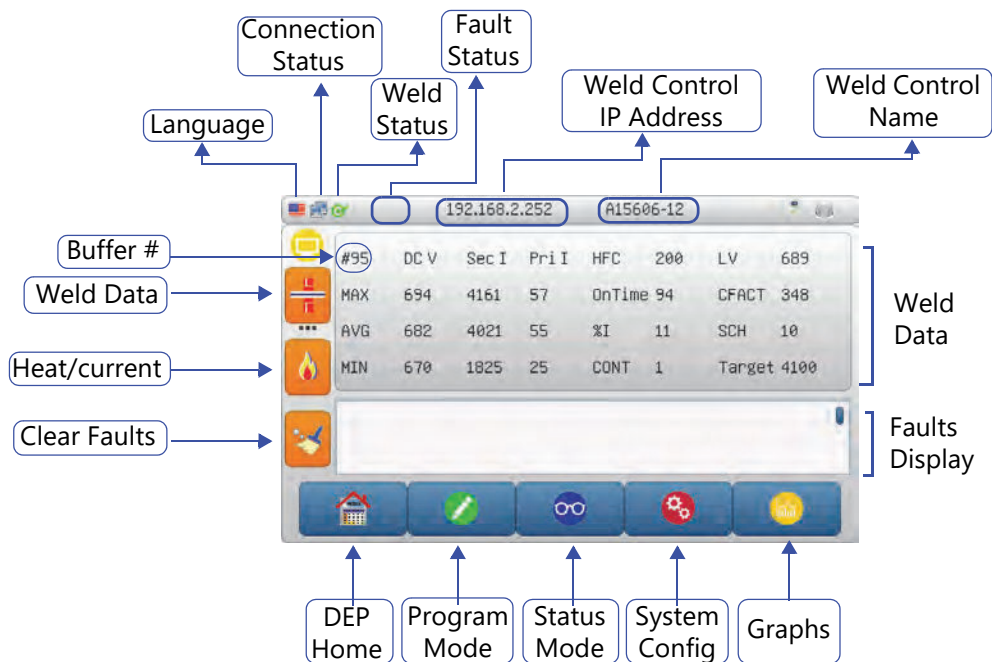
FOR INSTRUCTIONS ON HOW TO PHYSICALLY CONNECT THE DEP600 TO A WELD TIMER FOR SERIAL NETWORK COMMUNICATIONS, SEE "PHYSICAL CONNECTIONS" ON PAGE 7.

NOTE: LANGUAGE OPTIONS OTHER THAN ENGLISH ARE APPLICATION SPECIFIC AND MAY NOT BE AVAILABLE IN YOUR WELD TIMER. FURTHERMORE, DATA UPLOADED FROM A WELD CONTROL TO THE DEP IS DEPENDENT ON THE LANGUAGE PREFERENCE SETTINGS FOR THAT WELD CONTROL.

a


Chapter 3: MODE SELECTION

Once the DEP600 has successfully connected to a weld control, the Mode Selection Menu is displayed. This menu allows the user to access three main options: Program Mode, Status Mode, System Config and Graphs (When supported by weld control software).



NOTE: All blue and orange keys displayed on the screen correspond to the blue and orange function key maps on the keyboard and can be used either way.

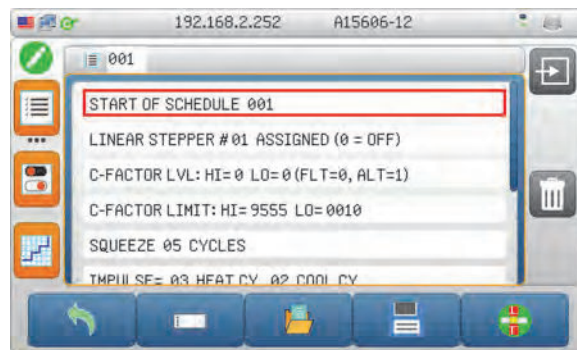
HOME [F1]

When the HOME  key is pressed from the mode selection menu, message will appear asking the user to confirm the action. Returning to Home Menu will close communications to the connected weld control.

PROGRAM MODE

Program Mode is used to review and edit weld schedules, current steppers, setup parameters and Spot ID for a weld control.

When the PROGRAM MODE  key is pressed, the following menu is displayed:



WARNING!





CAREFULLY READ THE INSTRUCTIONS BELOW PRIOR TO EDITING PARAMETERS IN THE WELD TIMER. WHEN EDITING PARAMETERS THAT REQUIRE A POWER RE-CYCLE ON THE WELD CONTROL CABINET FOR THE CHANGES TO TAKE EFFECT, IT IS RECOMMENDED MAKING ALL THE CHANGES FIRST PRIOR TO RE-CYCLING POWER. THUS, ONLY ONE RE-CYCLE IS REQUIRED.






REFER TO THE "ICON GLOSSARY" ON PAGE 34 FOR EXPLANATION OF ICONS AND THEIR FUNCTIONS.

EDITING A WELD SCHEDULE



INSERT OR DELETE A WELD FUNCTION:

- ① Press  to activate the schedule number field and enter the number using the keypad.
- ② Press  to open the schedule.

- ③ Using the arrow keys or touch screen select the line in the schedule to delete  or insert  a function (new function will be added below this line).

- ④ Press  Save to apply the change.





EDIT THE PARAMETERS/VALUES IN A WELD FUNCTION:

- ① Press . The value will be highlighted green. Using the number pad enter the new value. For functions with two or more parameters, press the RIGHT arrow key to move the cursor to the next parameter field, If an off-limit value is entered the highlighted field turns red.
- ②  Save icon turns yellow to indicate changes have been made. Press to save.




NOTE: SCHEDULE CHANGES CAN ONLY BE MADE TO THE WELD CONTROL THAT THE DEP600 IS PRESENTLY CONNECTED TO ON THE NETWORK. MAKE CERTAIN THE CORRECT WELD CONTROL IP ADDRESS AND WELDER ID IS DISPLAYED AT THE TOP OF THE MENU, IN ADDITION TO THE CORRECT WELD SCHEDULE FOR THAT WELD TIMER, PRIOR TO MAKING ANY PROGRAMMING CHANGES.

COPY A SCHEDULE:

- ① Press  to activate the schedule number field and enter the number using the keypad.
- ② Press . The Save icon turns to  Copy entire weld schedule. Confirm to make sure that the correct schedule # is displayed at "Start of Schedule" as the location where you want the schedule duplicated/pasted and press copy.
- ③ The icon turns blue  to indicate the schedule has been copied.



NOTE: WHEN COPYING A WELD SCHEDULE FROM ONE LOCATION TO ANOTHER, ANY EXISTING DATA IN THE PASTE LOCATION WILL BE COMPLETELY OVERWRITTEN AND PERMANENTLY LOST.





TIP: To find the desired weld function quicker, press  [F6] to scroll the functions list grouped by type. Key #7 takes you to the end of the list and key #1 to the beginning of the list.

EDITING SETUPS

WTC weld controls use a number of programmable settings, called Set-up Parameters, to enable you to customize a weld control to meet your application requirements.

The set-up parameters inform the control of its operating environment: how to react to certain conditions (as FAULT or ALERT conditions) and how to react when certain inputs become active.

Every weld program has its unique set of parameters. Refer to the Operator's Manual provided with the weld control for more information.

- ① Press  Setups to view the list.
- ② Using arrow keys or touch screen select the line in setups that will be edited.
- ③ Press  Enter to highlight the options field and using  keys scroll through levels available - Fault/Alert/None.
- ④ Press  Save to apply the change.



WARNING!











THE WELD CONTROL WILL IGNORE CHANGES TO CERTAIN SET-UP PARAMETERS (SUCH AS THOSE CONTROLLING RETRACT OPERATION) UNTIL POWER TO THE DEVICE IS CYCLED (TURNED OFF AND THEN BACK ON).

BECAUSE THESE SETTINGS CONTROL OPERATION OF THE WELD DEVICE, EXTREME CARE SHOULD BE EXERCISED BEFORE MAKING CHANGES TO SET-UP PARAMETERS!

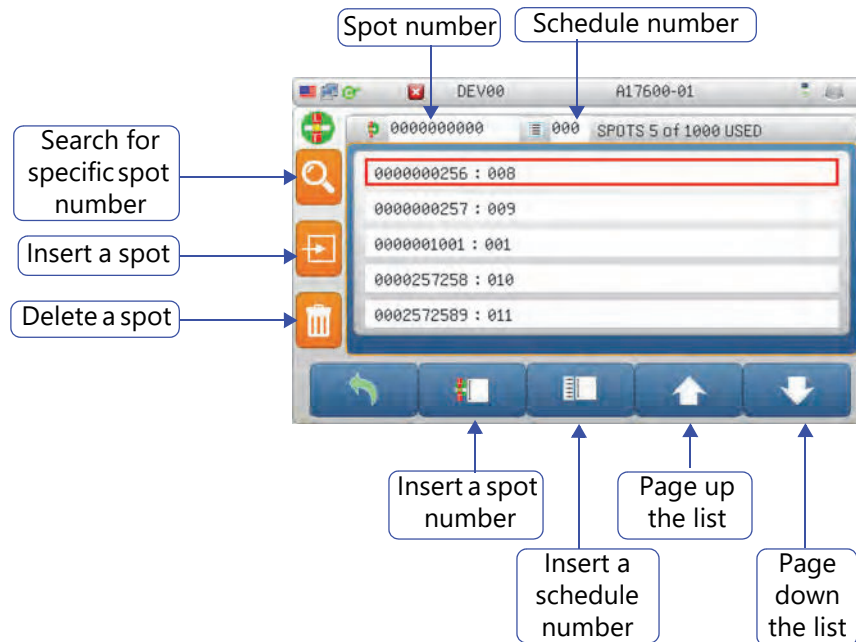
REVIEW AND EDITING STEPPER MENU

WTC weld control software is designed with stepper programs that keep track of the weld count and gradually increase heat after a programmed number of welds. The number of steppers available varies with different programs. (Refer to your software specific manual for more details on the stepper program). The Review Stepper menu provides information on the stepper profile, number of stepper programs available and allows editing of the stepper parameters.

Some weld controls provide multiple independent steppers. Each weld schedule can be assigned to a stepper and you can define a different profile for each stepper. The profile tells the control when and how compensation is provided.

- ① Press  or F8 to open Stepper Menu.
- ② To edit a Stepper profile, other than the one displayed, press  to activate the stepper number field and enter the number using the keypad.
- ③ Using arrow keys or touch screen select the line in stepper profile that will be edited.
- ④ Press  Enter to highlight the heat and/or number of welds values to edit. Using   keys scroll through the steps in the profile displayed.
- ⑤ Press  Save to apply the change.
- ⑥ To copy a Stepper profile from one stepper over to another, enter stepper number  and press  to open the stepper profile that will be duplicated.
- ⑦ The save icon changes to  Copy. The stepper profile number entered will be copied over to the present stepper displayed. The icon will turn blue  color to indicate the change.

SPOTS MENU



The Spots menu allows the user to make Spot to Schedule assignments, search or delete Spots.

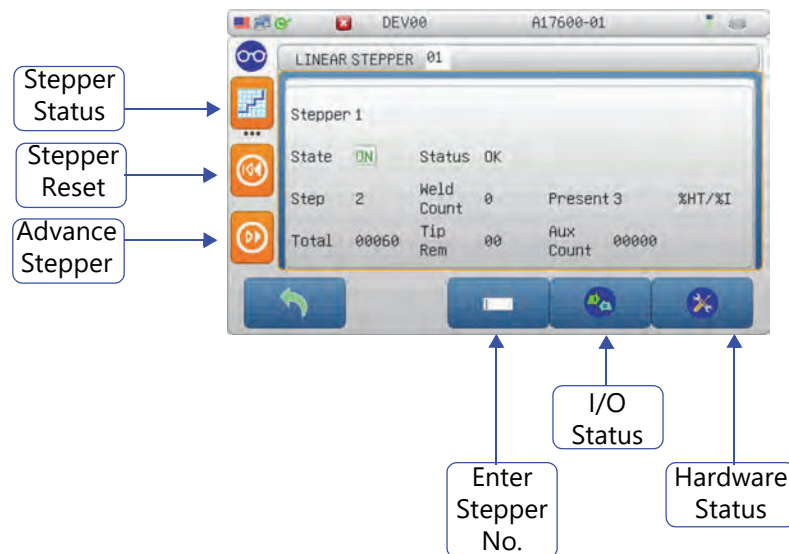



SPOT TO SCHEDULE ASSIGNMENT PARAMETERS (ONE TO ONE OR MANY TO ONE) ARE DETERMINED IN THE RELOAD OPTIONS MENU -PAGE 29.

By default the lowest spot number is visible in the Spot number field. To view all available Spots, scroll the list by line use the

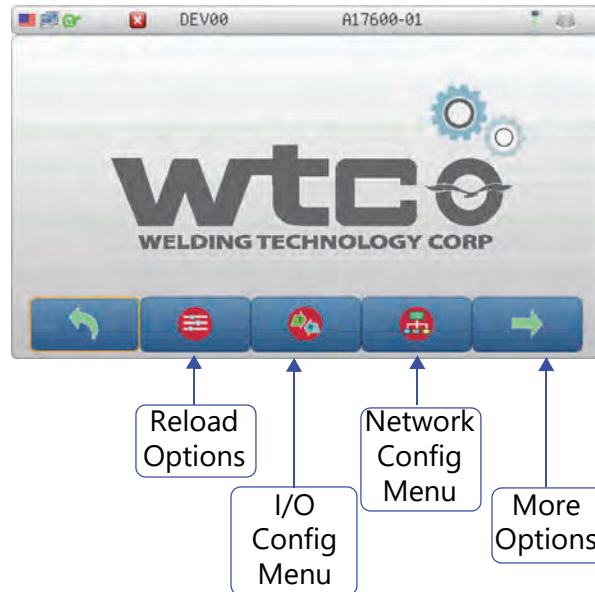
↑↓ keys on the keypad or to scroll up or down by page use the ↑↓ F4/F5.

STATUS MODE



The  Status Mode displays information on the overall welding status of various processes within the weld control. These include Steppers, I/O Status and hardware status.

SYSTEM CONFIGURATION MENU



RELOAD OPTIONS MENU:

The Reload Options Menu allows the user to configure many different weld control options. The control options available will vary depending upon the customers application requirements and the firmware loaded into the weld control.

I/O CONFIGURATION MENU:

The I/O Configuration Menu allows the user to configure and map the available I/O -Discrete, FieldBus or EIP

NETWORK CONFIGURATION:

This menu allows the user to configure the Network settings, such as IP Address, SubNet Mask, Gateway, DHCP, etc.

MORE OPTIONS:



This button is used to access Welder ID configuration, Upload and Restore features and other control specific features like **RAFT** and Servo.

GRAPHS

The Graphs feature can be enabled with software that supports graphing and available on weld controls over EtherNet.

TO ENABLE GRAPHING:







- ① From the DEP Configuration  page use the toggle switch to enable Graphs.
- ② Connect to a weld control over EtherNet with graphing available.
- ③ The graph icon  will be displayed on the Home screen. Press F5 to open the graph.

Chapter 4: USING A USB FOR BACKUPS AND SOFTWARE UPGRADE




WTC releases frequent updates to the DEP600 firmware. To obtain the most recent update contact your WTC Sales representative.

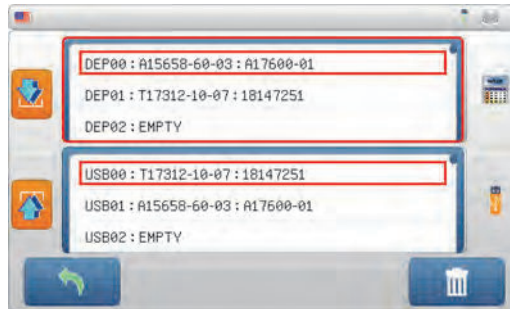
TO INSTALL THE UPDATE FOLLOW THIS PROCEDURE:









- ① Transfer the Upgrade file onto a supported* USB flash drive.
- ② Navigate the DEP600 to the HOME screen .
- ③ Connect the USB flash drive containing the upgrade to the USB port on the DEP600. you will see* the USB icon on the top right of the screen .
- ④ Press F1 or  and then F5 or  to start the update.
- ⑤ The screen will display progress.

**FAT32 Supported. Unsupported format USB will not be detected by the DEP600.*












TO BACKUP/RESTORE PROGRAMS TO/FROM THE USB FOLLOW THE PROCEDURE BELOW:

- ① From the HOME menu press FI/  to select DEP settings menu.
- ② Connect the USB flash drive (*FAT32 format*) to the USB port on the DEP600. The USB icon is displayed on the top right of the screen .
- ③ Press F4/  to select Backup/Restore to USB.





























- ④ Press F6/  to select transfer from DEP600 to the USB flash drive.
 - To navigate within the field (DEP600) items and select files, use the  and  arrows.
 - There are 50 slots available for file transfer.
- ⑤ Press F7/  to select transfer files from the USB the DEP600.
 - To navigate within the field (USB) items and select files, use the  and  arrows.
 -  Spinning icon indicates that the transfer is in process.
 - To delete an item press F5/ .














ICON GLOSSARY














ICON	FUNCTION / DESCRIPTION
	DEP Configuration.
	DEP- Home (Screen)
	DEP Update
	WTC Weld control
	Serial connection
	EtherNet Connection (Port ENET 0)
	Global Ethernet (Port ENET 1)
	Go or connect
	Go back
	Down
	Up














ICON	FUNCTION / DESCRIPTION
	Go to next page
	Go back a page
	Reload/Refresh
	Yellow indicates change has been made to settings and prompts to save.
	Color change to blue confirms the changes have been saved.
	Cannot save changes.
	Language selection- Chinese
	Language selection- English
	Language selection- French
	Language selection- German
	Language selection- Japanese
	Language selection- Korean
	Language selection- Portuguese
	Language selection- Spanish













ICON	FUNCTION / DESCRIPTION
	Language selection- Turkish
	File Transfer: Save/Upload to/from USB
	Clean USB
	USB busy
	Download to USB
	Upload to control from USB
	Processing
	Increase/ Reduce screen brightness
	Delete
	Clear
	Weld Mode
	No Weld Mode
	Cannot change Weld State

ICON	FUNCTION / DESCRIPTION
	Insert
	Display Mode
	Weld Info/Data for the control the DEP is connected to.
	Weld Functions
	Edit
	Weld Schedule
	Edit Setups -change Fault/Alert status.
	Edit Stepper
	Enter Schedule number
	Open File/Schedule/Setup
	Copy
	Color change to indicates Copied
	Spot

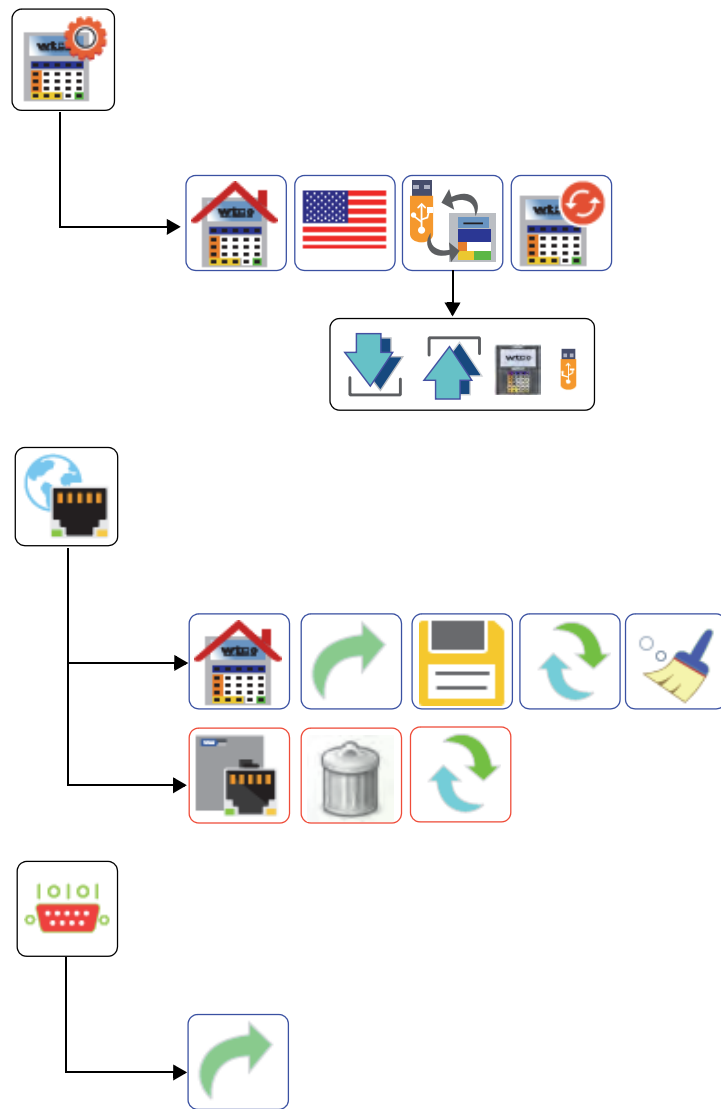
ICON	FUNCTION / DESCRIPTION
	Enter Schedule Number
	Enter Spot Number
	Page Down: Scroll down the Spots list
	Page Up:
	Status
	Stepper Advance
	Stepper Reset
	Stepper Reset All
	I/O Status
	I/O Configure
	Pressure Edit/Configure
	Weld Control details/Status: Software and Hardware status
	Configuration: Reload Defaults, make language selection, Spot assignments etc.

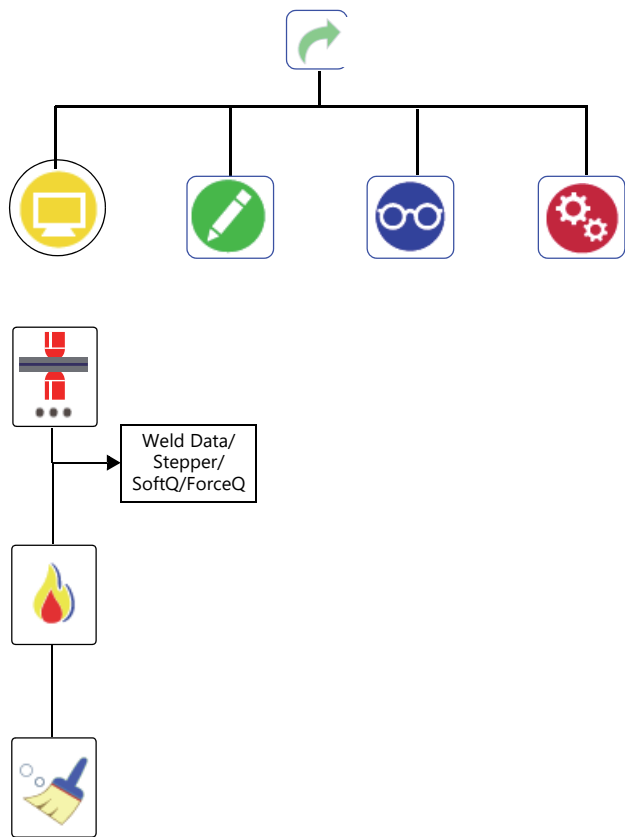
ICON	FUNCTION / DESCRIPTION
	Reload Defaults
	I/O Options -Configure
	DIO- Discrete I/O
	E/IP - EtherNet IP I/O
	FieldBus I/O
	Configure E/IP
	Inputs
	Outputs
	Network Configure
	Welder ID: Set custom name for the weld control.
	Launch keyboard
	Backup + Restore
	Backup weld control to DEP 600

ICON	FUNCTION / DESCRIPTION
	Restore from DEP 600
	RAFT features launcher
	RAFT Resistance Measure Enable
	RAFT Reference Weld Enable
	RAFT Copy Reference Schedule
	Graphs
	Enter Heat/Current value
	Enter Schedule Number
	Servo Configuration
	Servo Calibration
	Auto (Calibrate) Home
	Auto Calibrate
	Jog Open

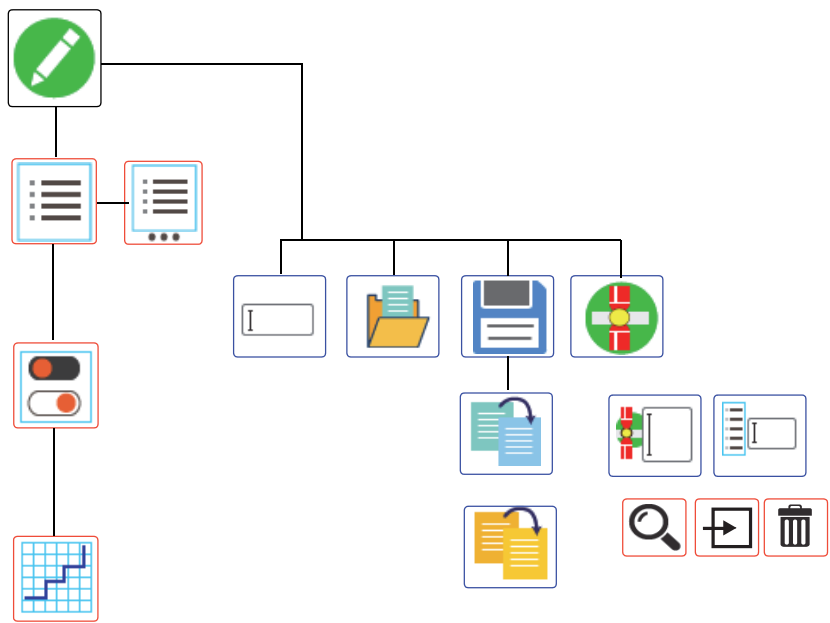
ICON	FUNCTION / DESCRIPTION
	Jog Close
	Servo: Set material Thickness
	Check Thickness
	Set Thickness
	Jog Closed
	Jog Open
	Servo: Measure Force
	Set Force/Pressure
	Clear Force
	PSEC: Lock Program
	HSEC: Lock Heat
	Search

NAVIGATION TREES

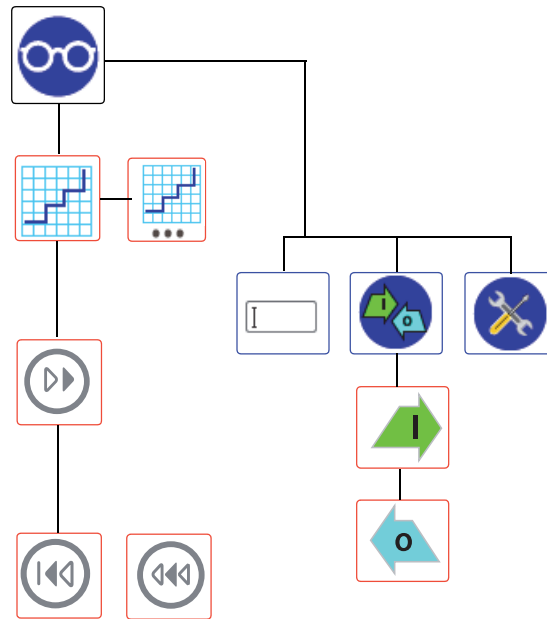




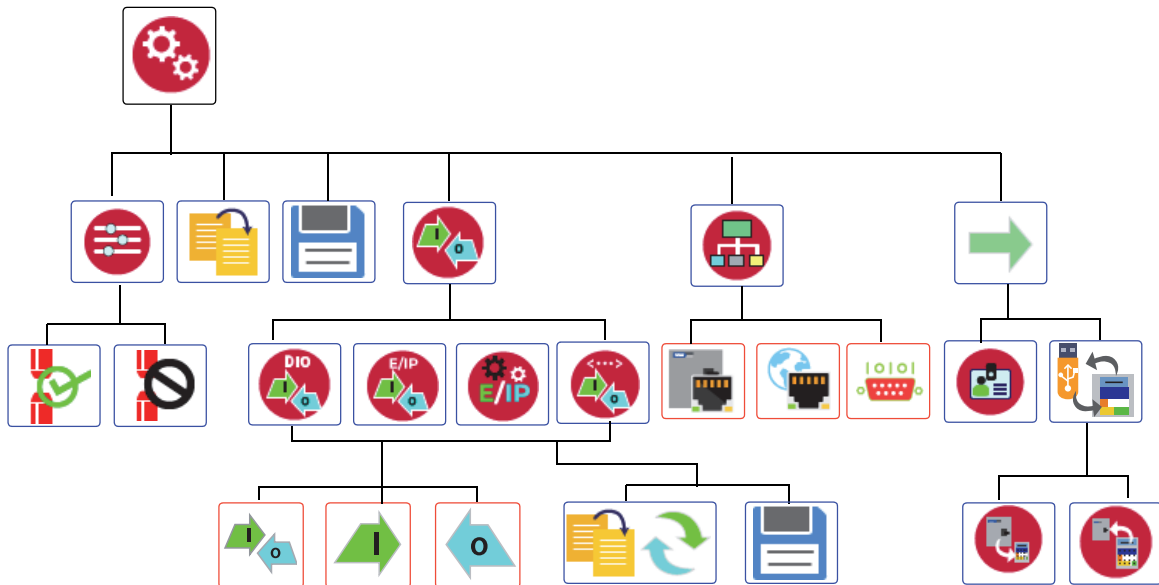
EDIT/PROGRAM FUNCTIONS



STATUS FUNCTIONS



CONFIGURATION FUNCTIONS



QUICK TIPS






TO TAKE A SCREEN SHOT:

- ① Insert USB. Confirm it was detected with the icon on the top right.
- ② Press ↓ ↑ arrows on the keypad, together. The USB icon color changes to green.
- ③ Remove USB when color changes back to orange.

KEYSTROKE PAGE NAVIGATION:

- 7 Go to bottom of page
- 1 Go to the top of page.
- 9 Go to next page.
- 3 Go to previous page.

USING ARROWS TO MOVE WITHIN FIELDS:

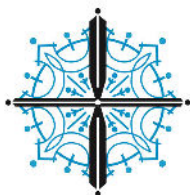
- Use  and  arrows to move between fields. Press  to edit within the field.
- Use  and  arrows to toggle within a field to enable or disable.

TO RESTART DEP600:

- Press F5 and Enter  together.



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