

HERMAL ARC®

A THERMADYNE® Company

HMC-410

AUTOMATIC OR SEMIAUTOMATIC CONTROL PANEL AND FEEDHEAD ASSEMBLY

FOR A COMPLETE SYSTEM, ORDER:

Cat. No. 170896A-002
Cat. No. 500019C-001
Cat. No. 870060-001
Cat. No. 870058
Cat. No. 375769-004
Cat. No. 170552-XXX(2)



FOR A FEEDHEAD ASSEMBLY, ORDER:

Cat. No. 170896A-002

FOR A HMC-410 CONTROL PANEL, ORDER:

Cat. No. 500019C-001

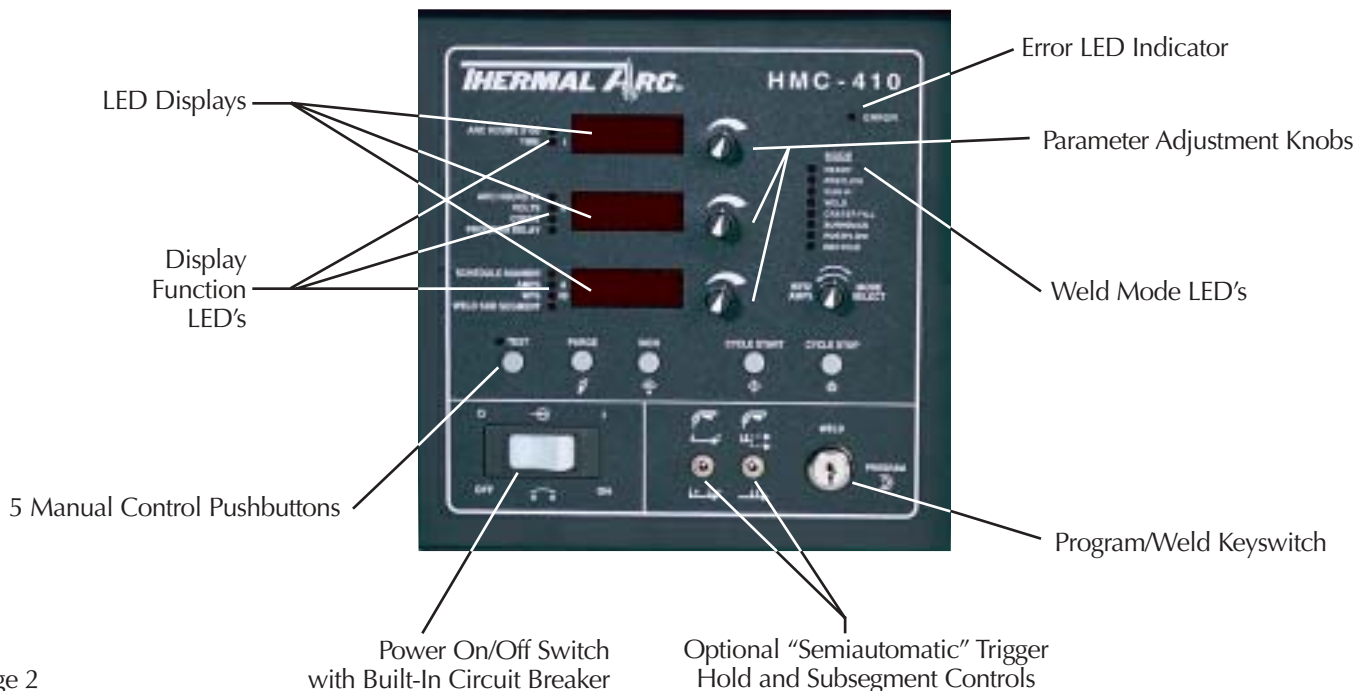
The Thermal Arc® HMC-410 Control Panel and Feedhead Assembly are designed to exceed the demanding expectations of semiautomatic and automatic industrial applications.

- Designed to work with the Thermal Arc® Power-Master® 500, Power-Master® 500P, Pro-Plus® 400MST, Ultra Flex™ 350 Pulse and Fabstar® 4030 series of power sources.
- Capable of controlling MIG and Pulse MIG applications with many features that allow the user to customize the control for specific needs.
- Standard equipment provides 10 schedules with user programmed parameters from preflow to postflow operations.
- Capable of adding additional features and capabilities with optional software upgrades.
- LED's display preset and actual weld parameters including volts, wire feed speed, amps, and weld time.
- Standard program/weld switch provides security to prevent unauthorized program changes.
- Heavy duty feedhead assembly provides a 4-roll system with tach-feedback for consistent, reliable operation. Inch and purge switches are standard.

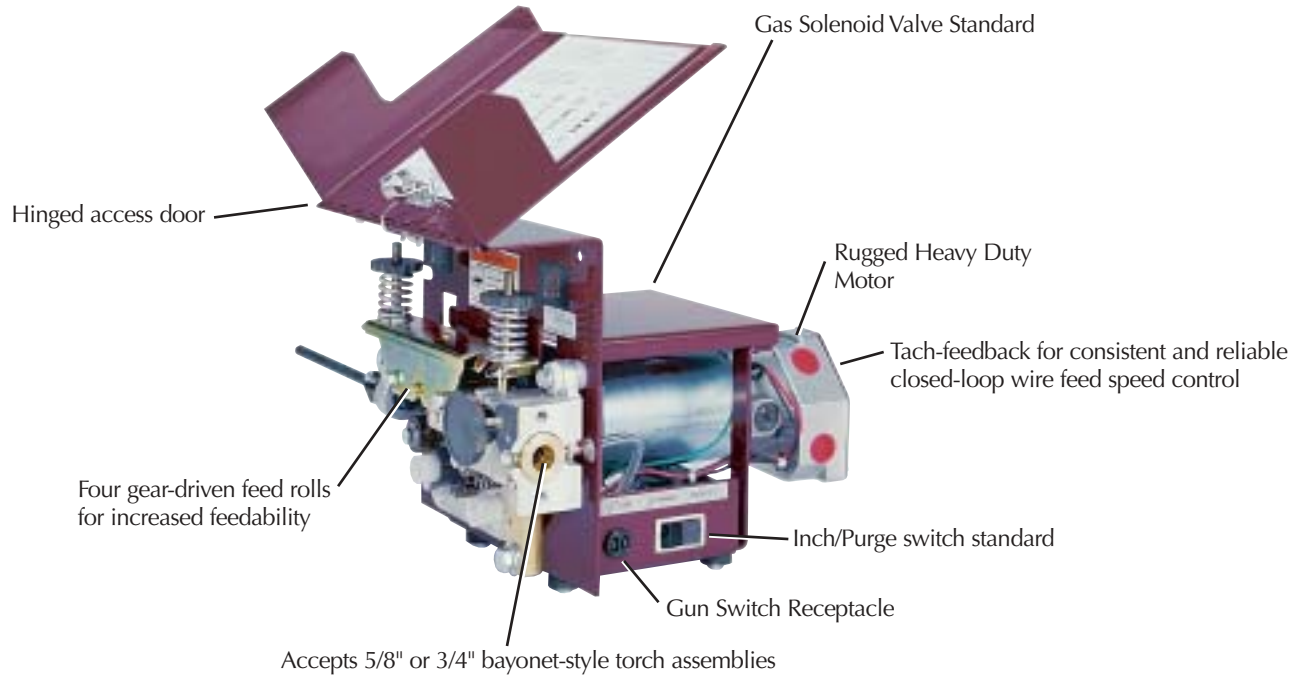
*Got
Power...?*

Features	Benefits
1. Solid State Control	A. Provides input voltage compensation B. Provides current limit to the motor C. Provides overcurrent shutdown
2. Tachometer Feedback (see illustration pg. 3)	A. Provides precise wire feed speed accuracy B. Provides motor load compensation
3. Continuous-Turn Knobs	A. Allows precise input of welding parameters
4. Multiple LED Displays (see illustration below)	A. Provides visual indication of parameter input B. Displays actual weld parameters
5. Inch Switch (see illustration below)	A. Allows "cold" inching of wire at set wire feed speed
6. Purge Switch (see illustration below)	A. Allows purging of gas without running wire
7. Test Switch (see illustration below)	A. Permits a practice run through of a programmed weld sequence without welding
8. Weld/Program Keyswitch	A. Provides operator lockout to preset welding parameters
9. 10 Weld Schedules (see HMC-410 Program Capability Chart on pg.3)	A. Operator can store up to 10 weld schedules into non-volatile memory for easy job changeover B. Eliminates the need for continuous resetting of weld parameters
10. 4 Weld Subsegments (see HMC-410 Program Capability Chart on pgs. 3 & 4)	A. Each of the 10 weld schedules can be subdivided into 4 subsegments B. System can switch between subsegments (with a standard gun switch trigger or via the auxiliary interface) without interrupting the welding arc
11. Softswitch Screen	A. Allows custom programming of system capabilities
12. Self-Diagnostics Routine	A. 60 test functions aid in troubleshooting and servicing
13. Multiple Software Upgrades (see Optional Software Upgrade pg. 5)	A. Permits a reconfiguration of system capabilities with a simple change in software
14. Remote Pendant Amphenol	A. Provides a connection point for the use of a remote pendant control to allow start, stop, inch, and purge
15. Auxiliary Interface Amphenol (See Auxiliary Interfacing for Automatic Operation see page 4)	A. Allows an easy interface to Programmable Logic Control or similar controllers for start, stop, inch, purge, and subsegment advance commands B. Provides 3 system relays that can be used to provide timing signals to PLC controllers
16. Dynamic Brake	A. Solid state control of a motor brake offers precise stopping of the wire
17. Input Circuit Breaker (see illustration below)	A. Provides total system protection
18. Multiple On-Board Fuses	A. Provides I/O protection
19. Ground Fault Circuit	A. Protects the operator and equipment from welding current flowing through the ground system of the control panel
20. 100% Duty Cycle	A. Eliminates nuisance shutdowns due to overtemperature
21. Remote Operation To 100 Feet	A. Can separate HMC-410 from feedhead assembly up to 100 feet B. Remove HMC-410 from harsh welding areas C. Can locate HMC-410 at operator's work station

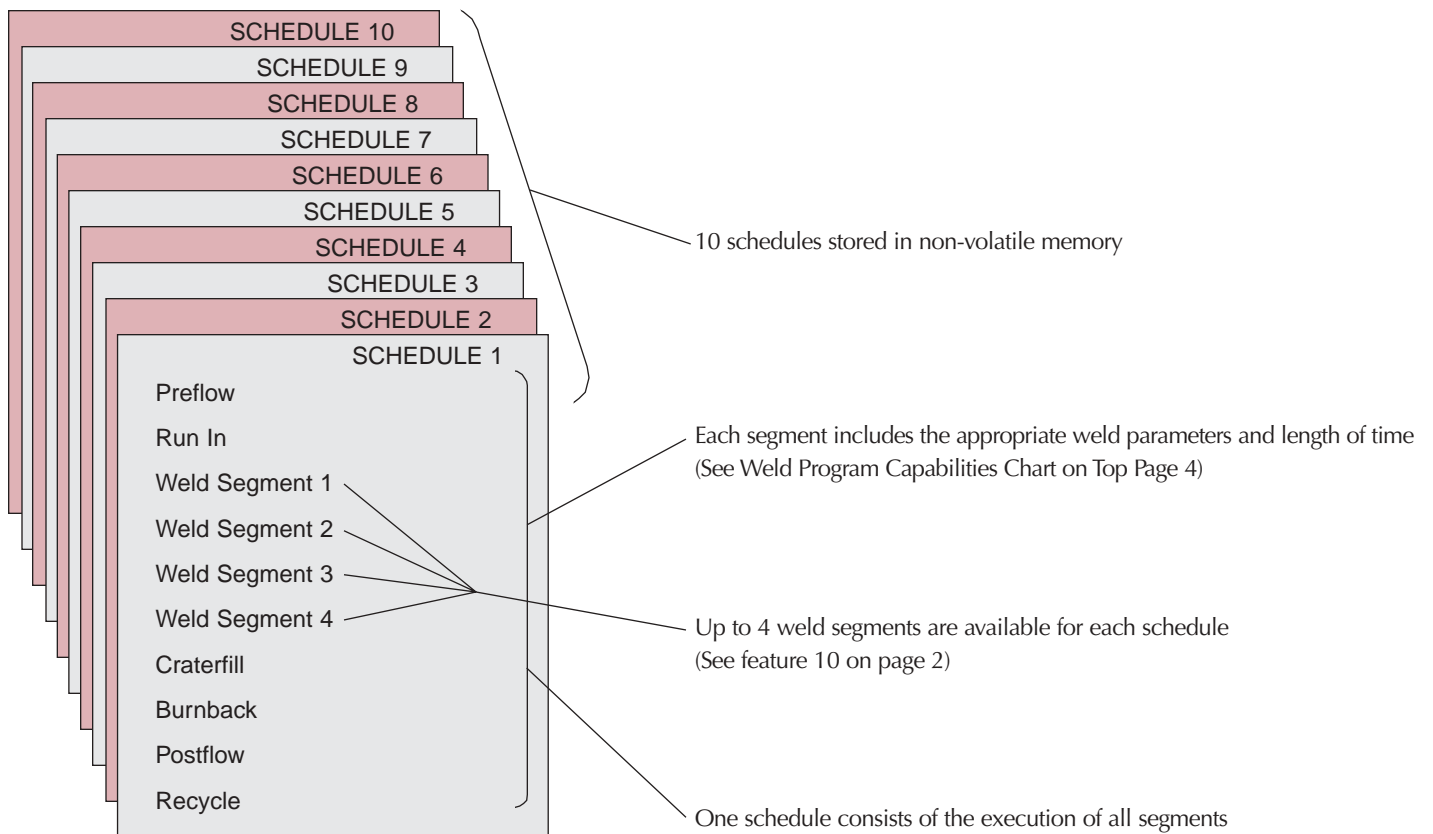
HMC-410 CONTROL PANEL



HMC-410 FEEDHEAD ASSEMBLY



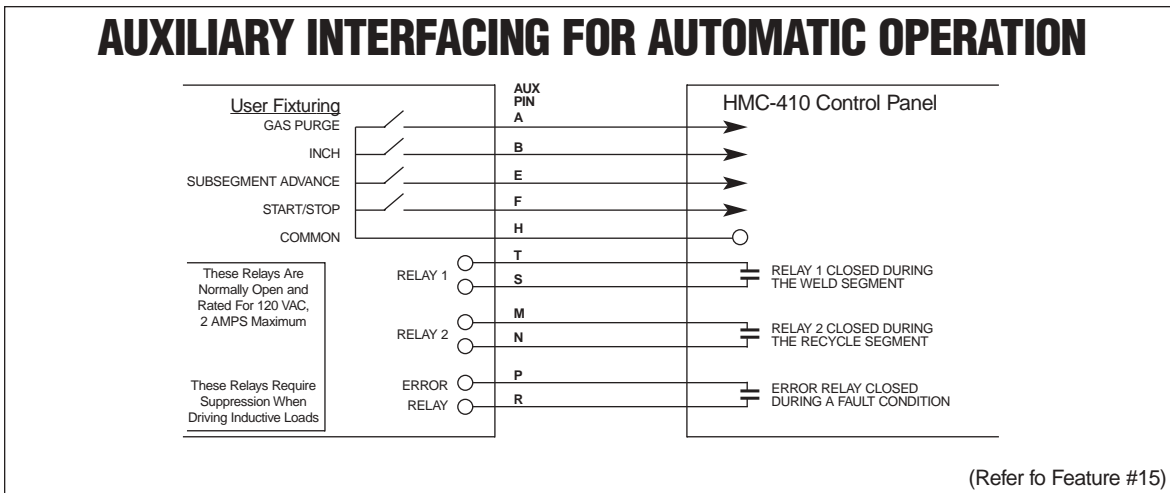
HMC-410 PROGRAM CAPABILITY



WELD PROGRAM CAPABILITIES (Example of Schedule 1)

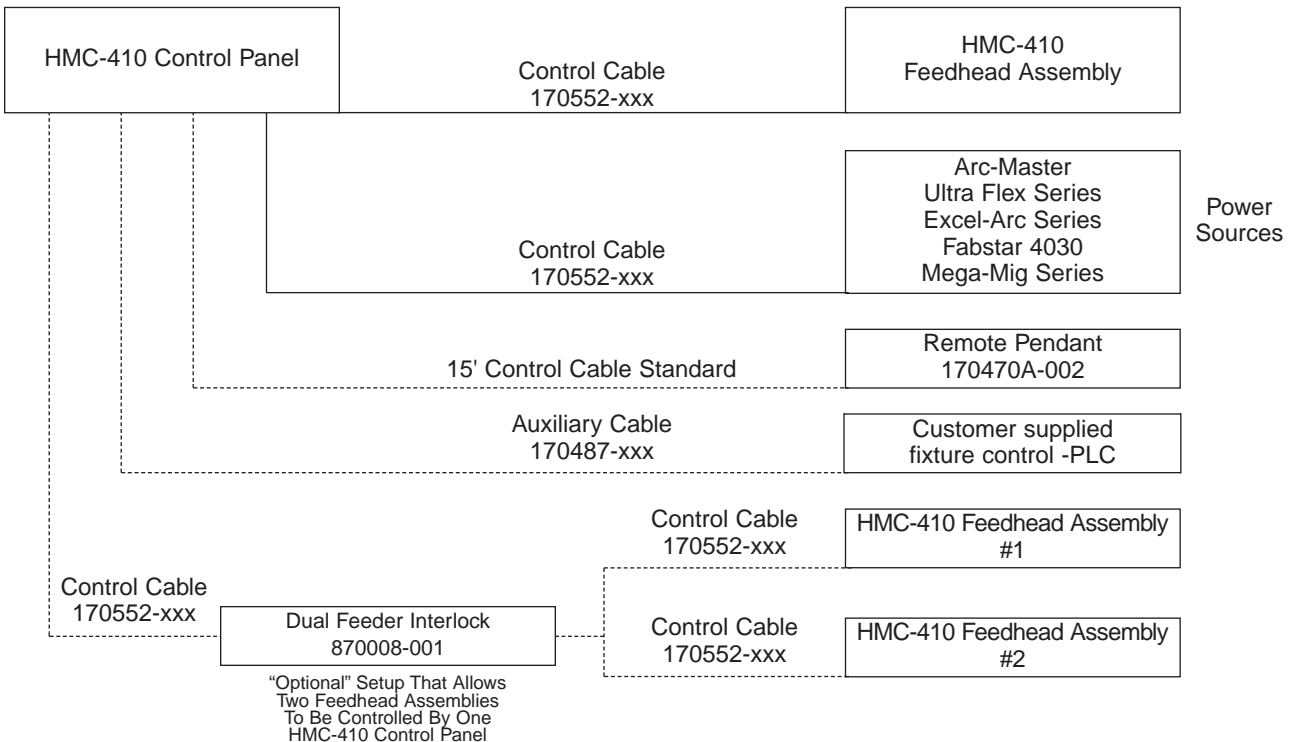
PROGRAM SEGMENT	TIME (.1 sec. increments)	VOLTAGE (.2 volt increments)	WIRE FEED SPEED (4 ipm increments)
Preflow	0 to 25.5 sec	Not Applicable	Not Applicable
Run In	0 to 25.5 sec	See Notes	0 to 888 (See Notes)
Weld Segment (1-4)	0 to 25.5 sec (or continuous)	See Notes	0 to 888 (See Notes)
Craterfill	0 to 25.5 sec	See Notes	0 to 888 (See Notes)
Burnback	0 to 2.55 sec	See Notes	Not Applicable
Postflow	0 to 25.5 sec	Not Applicable	Not Applicable
Recycle	0 to 25.5 sec	Not Applicable	Not Applicable













Notes: Voltage can be programmed from minimum to maximum voltage output of the selected power supply.
 Wire feed speed can be programmed in either inches per minute or meters per minute (.1 meter increments).
 Guaranteed wire feed speed range is 60 to 888 inches per minute.



Please contact factory for interfacing of Random Schedule Select Option.

HMC-410 INSTALLATION



Feed Roll Kits One Kit included with feeder. Additional sets optional.		 Flat	 Flat Knurled	 Double Smooth Vee	 Double Knurled Vee	 Double Cog	 Double "U"
375980-XXX Replacement Drive Rolls Kit		 Double Smooth Vee Hard	 Double Smooth Vee Hard	 Double Smooth Vee Soft Hard Tubular	 Double Knurled Vee Hard Tubular	 Double Cog Tubular	 Double "U" Soft (Aluminum)
Description of Wire Size & Type		STYLE 1	STYLE 2	STYLE 3	STYLE 4	STYLE 5	STYLE 6
.024 / .55mm	4 roll	375980-071	-	-	-	-	-
.030 & .035 / .76mm & .89mm	4 roll	375980-041	375980-043	375980-050	-	-	-
.030 & .035 & .045 / .76 & .89 & 1.2mm	4 roll NV	375980-068	375980-069	-	-	-	-
.035 & .045 & 3/64 / .89 & 1.2 & 1.2mm	4 roll	-	-	375980-070	-	-	-
.045 / 1.1mm	4 roll NV	375980-042	375980-044	375980-051	375980-083	375980-062	-
.052 / 1.3mm	4 roll	-	-	375980-052	-	-	-
5/64 / 2.0mm	4 roll NV	375980-046	-	-	375980-058	375980-064	-
3/32 / 2.4mm	4 roll NV	-	-	-	375980-059	375980-065	-
7/64 / 2.8mm	4 roll NV	-	-	-	375980-060	375980-066	-
1/8 / 3.2mm	4 roll NV	-	-	-	375980-061	375980-067	-
.035 / .89	4 roll NV	375980-080	-	375980-050	-	-	375980-072
.052 / 1.3mm	4 roll NV	375980-081	-	-	-	-	-
.068 / 1.4mm	4 roll NV	375980-082	-	-	-	-	-
1/16 / 1.59mm	4 roll NV	375980-045	-	-	-	-	375980-074
3/64 / 1.6mm	4 roll	-	-	375980-051	-	-	375980-073
.052 & 1/16 / 1.3mm & 1.6mm	4 roll	-	-	375980-052	375980-057	375980-063	-

NOTES: All feed roll kits include the input, output, and center guides with 4 feed rolls.
The feed roll kit part number must be specified with each feedhead assembly order.
One Kit is supplied standard with each feedhead assembly.

NV = Narrow Vee


OPTIONAL SOFTWARE UPGRADES

(Part Number 171238-xxx)

"-003" is included as standard software

FUNCTION	Software Version Number			
	-003	-006	-013	-017
Password Security				
Variable Trim: +/- % of Settings				
SubSegment Enable/Disable				
Display Filter Adjustment: Adjust Meter Sensitivity				
Gun Switch Sensitivity				
No. of Available Schedules	10	10	8	8
Craterfill Enable/Disable				
Burnback Enable/Disable				
Recycle Enable/Disable				
Random Schedule Select: Remotely Select Schedules				
Front Panel Select Enable/Disable				
De-Bug Weld Program				
Weld Time Accumulation				
Standard Diagnostics				
Enhanced SubSegment (Start Level For Example)				

Contact Factory For Additional Software Capabilities/Options

 = available function

