



PP0117 PUSH PULL Universal Motor Drive Module



User Manual

Parweld Push Pull Torch Motor Driver Control Module

Function

The Parweld Motor Driver Control Module PP0117 is a DC motor driver designed to regulate a range of supply voltages producing an output of a suitable rating to drive the pull motor of the Parweld push pull MIG welding torch.

Key Features

- Wide input and signal voltage range; 18 – 42V
- AC or DC input and signal current flow.
- Feeder push motor activation sensing circuit for simultaneous pull motor Start / Stop.
- Regulated motor voltage supply.
- On board adjustable speed control trimmer.
- Optional external remote speed control trimming.
- Pre-fitted connection leads for; torch control (Socket fitting), power and signal input (Receptacle and blade fittings).
- Magnetic strip mounting for attaching to the side of a machine.
- Alternative fixing holes for standard screw or bolt fastener fixing.

Dimensions

Enclosure Overall: 110mm (4.3") Long x 82mm (3.2") Wide x 40mm (1.6") Deep

Fixing Hole Centers: 124mm (4.9") x 63.5mm (2.5")

Fixing Holes: Ø4.7 x 4 Places.

Driver Ratings Data

Supply Input	
Voltage Range	18 - 32 Volts
Current Flow	AC or DC
Supply Current	30mA Min / 2A Max
Protection Fuse	None

Control Signal Input	
Voltage Range	18 - 32 Volts
Current Flow	AC or DC
Current Input	20mA Min / 2A Max
Protection Fuse	None

Output	
Voltage Rating	15.3 Volts MAX
Current Flow	DC
Operating Current Range	60mA (Low) – 1.1A (High)
Current Stability	+/- 25%
Nominal Power Rating	12 Watts
Max Continuous Current	2A
Protection Fuse	3A Slow Melt 5x20mm

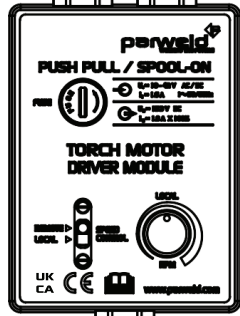
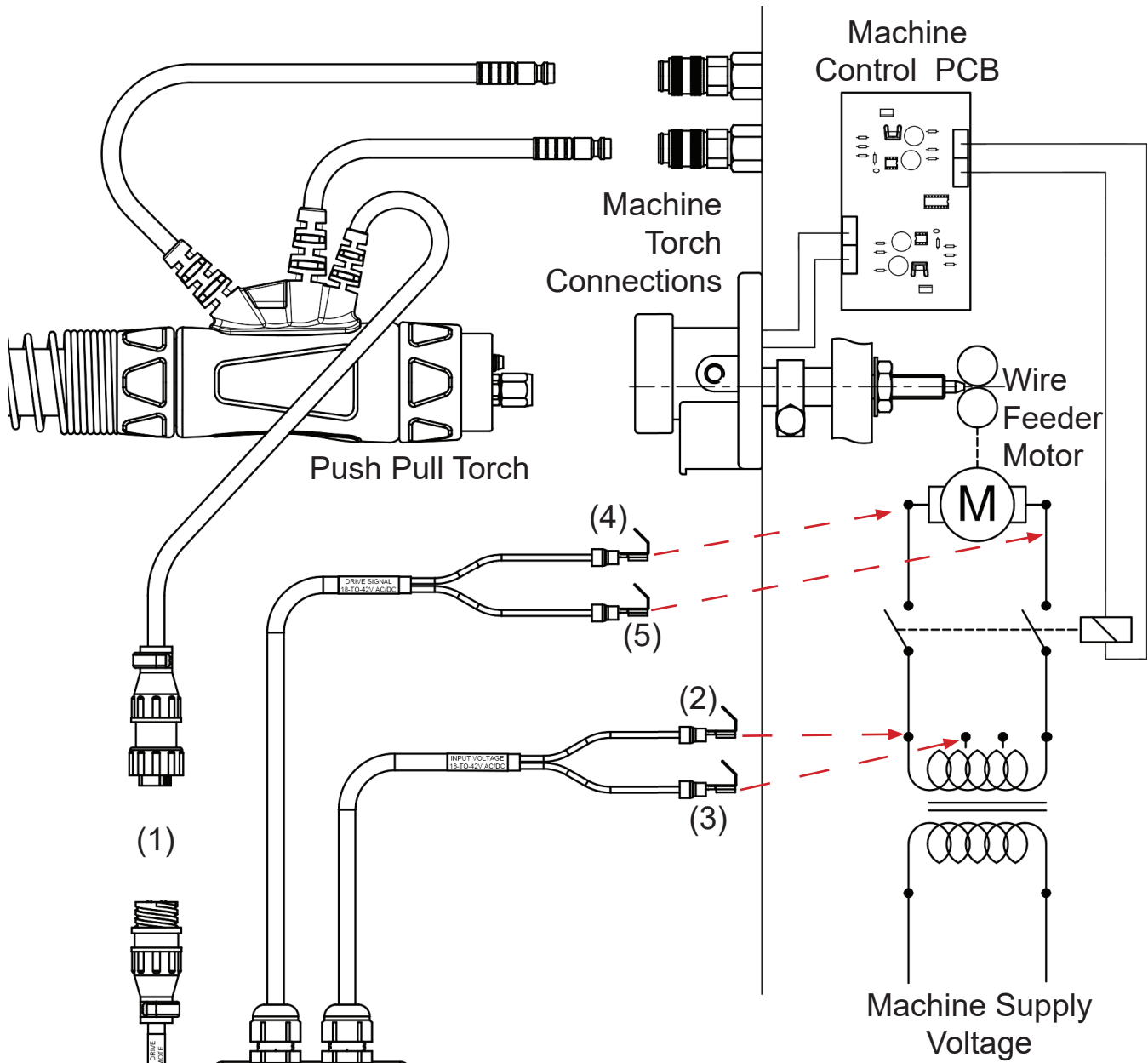
Reference Torch Wire Feed Data

Nominal Wire Feed Speed	M/Min	Ft/Min	
Min	1.5	4.9	+/- 10%
Max	28.5	93.5	+/- 10%

Note:

Due to circuit losses, with an 18V supply, the motor maximum speed will be reduced by 20%. To ensure full speed range it is advised that a supply voltage of 24V or greater be used when available.

Drive Module Connection Schematic



Drive Control Module

No	Connection Type	Voltage Rating
1	Torch Drive / Remote	15.3V DC /
2	Input Voltage	18 - 42V AC/DC
3	Input Voltage	18 - 42V AC/DC
4	Drive Signal	18 - 42V AC/DC
5	Drive Signal	18 - 42V AC/DC

Safety Warning

- Before any work is carried out on the welding source machine, turn off the machine and make sure the input power is disconnected.
- Do not touch live parts.
- Wear insulating gloves and body protection.
- Any panels removed for connection work to be carried out must be replaced and the electrical and mechanical safety of the machine ensured before reconnecting the input power.
- The following setup and connection work must be done by a suitably qualified engineer.

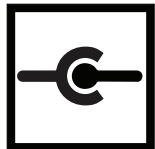
Drive Module Mounting and Connection



Mounting:

The drive module can be mounted on the feeder machine externally or internally. Fixing of the module can be either by the use of the magnetic strips mounted on the back face of the module enclosure. Or via screw/ bolt fixings fitted through the flanged back plate of the module enclosure.

Connections:



The drive module connection schematic shows the connections to be made for the system to work.

(1) - Torch Drive & Remote : The connection between the torch control lead to the drive module via the in line cable plug and socket.

(2) and (3) - Input Voltage : The input power for the drive. This must be between a voltage range of 18 to 42 Volts and can be either Alternating or Direct Current (AC/DC). Find a suitable source inside the machine from which a safe a secure connection can be made. Note that it does not matter which terminal is connected to the positive or negative, the drive will correct the polarity.

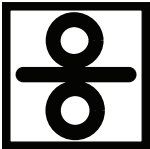
(4) and (5) - Drive Signal :The drive signal. This is a trigger connection that allows the drive module to identify when the feeder unit is operating. This connection should be made across the feeder motor terminals. So when the motor is powered up the drive module will power up simultaneously. Find a suitable source inside the machine from which a safe a secure connection can be made. Note that it does not matter which terminal is connected to the positive or negative, the drive will correct the polarity.

Speed Control Configuration



Drive Module “Local” Speed Control

If the torch does not have a built in remote speed control on the handle. The pull motor speed can be controlled using the drive module “Local” speed control trimmer offering limited speed adjustment.



Set Up and Adjustment:

On the front of the drive module housing set the speed control selector switch down, to the “LOCAL” position.

When the torch trigger is operated the drive motor will run, turning the feed rolls.

The feed roll speed is controlled by the local trimmer on the front of the module next to the selector switch.

If the motor speed is too slow, turn the trimmer clockwise.

The feed rolls should rotate with increasing speed as the trimmer is turned in this direction.

If the speed is too fast, turn the trimmer in the opposite, counter-clockwise, direction.

Once you are happy with the feed speed you are ready to weld. Any further adjustment of the speed has to be made using the drive module trimmer between welding runs.

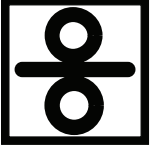


Speed Control Configuration



Torch Mounted “Remote” Speed Control

A push pull torch that has a remote speed control trimmer fitted on the handle offers the welder the capability to adjust feed speed without having to return to the welding power source and driver module. Allowing quick fine adjustments as and when required.



Set Up and Adjustment:

On the front of the drive module housing set the speed control selector switch up, to the “Remote” position.

When the torch trigger is operated the drive motor will run, turning the feed rolls.

The feed roll speed is controlled by the remote trimmer on the torch handle.

If the motor speed is too slow, turn the trimmer clockwise.

The feed rolls should rotate with increasing speed as the trimmer is turned in this direction.

To slow the speed, turn the trimmer in the opposite, counter-clockwise, direction.

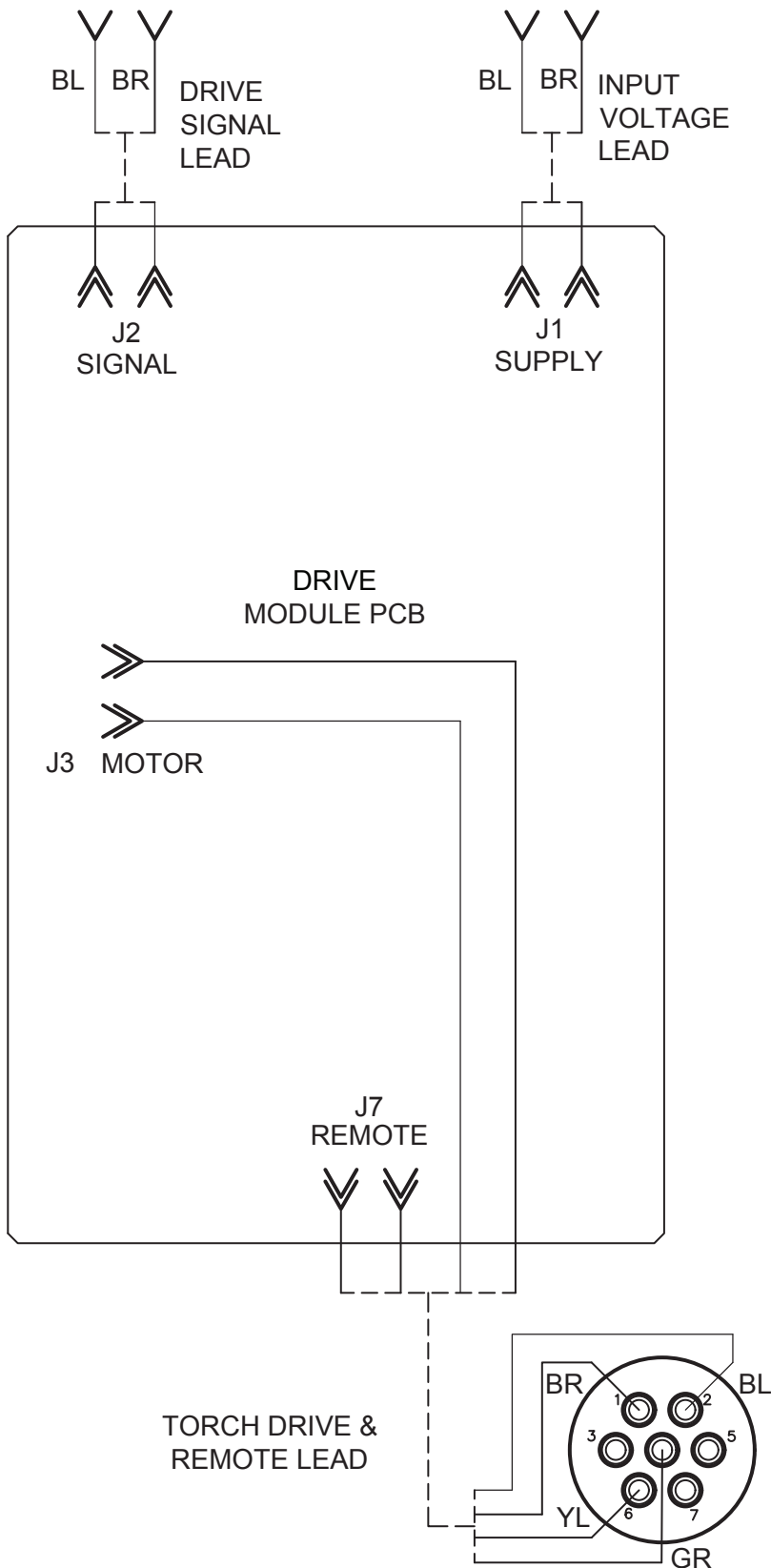
Once you are happy with the feed speed you are ready to weld. Any further adjustment of the speed can be made using the same handle mounted trimmer during or between welding runs as required.



Trouble Shooting

Problem	Remedy
Wire feeder does not activate when torch trigger is operated	Check and secure torch gun plug connection with the feeding machine
	Check torch trigger is operating and connection is made through the torch
	Check feeding machine via the users manual
Wire feeder activates when torch trigger is operated but torch drive does not feed	Check and secure the control lead connection with the drive module
	Check the input voltage and drive signal lead connection are made to the correct terminals in the source feeder machine.
	Check the speed control selector switch is in the correct position for the torch configuration connected.
	Adjust the speed control trimmer, either on the drive module or the torch depending on the torch configuration
Torch drive speed running at maximum when the trigger is operated, speed trimmer is not effecting the speed when adjusted	Check the speed control selector switch is in the correct position for the torch configuration connected.
	Torch control lead wires may be connected incorrectly.
Torch drive is not running when the trigger is operated, speed trimmer is not effecting the speed when adjusted	Check the speed control selector switch is in the correct position for the torch configuration connected.
	Torch control lead wires may be connected incorrectly.
Remote speed control trimmer fitted to the torch is not affecting the drive speed when adjusted	Check the connections as secure through the torch and with the control lead to the drive module

Drive Module Circuit Schematic



Pin No	Wire	Conn.
1	Red	Motor (+)
2	Blue	Motor (-)
3		
4	Green	Remote
5		
6	Yellow	Remote
7		

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