

## Front Panel Status LED's



Colour	Name	Function
Red	Supply Fault	Indicates either a low logic supply, or the winding supply is too high (greater than 100V).
Red	Over Temp	Indicates that the heatsink temperature is greater than 100°C.
Red	W1 Fault	Indicates that either a short circuit has occurred on winding 1 or if the winding supply is below 27V.
Red	W2 Fault	Indicates that a short circuit has occurred on winding 2.
Green	Energise	Indicates that the motor is energised.
Yellow	Phase 0	Indicates the phase 0 condition. Note that it is normal for this LED to flash or be dimly lit when the drive receives clock pulses.

## Electrical Specification

Supply Voltages		Min	Typ	Max
	Winding Supply	27V	85V	94V
	Logic Supply	15V	24V	33V
Logic Supply Current	80mA			
Winding Supply Fuses	D28/6, D28/9	3.15A Fast Blow		
	D55/6, D55/9	5A Fast Blow		
	D110	8A Fast Blow		
	D165	10A Fast Blow		
Motor Inductance	Min 0.5mH			
Step Rate	0-500KHz			
Dimensions (l x w x h)	6HP Drive	172x25x112mm		
	9HP Drive	172x42x112mm		
Mounting	3U subrack mounting or via PCB posts			

## Contacting SmartDrive

### SmartDrive Limited

The Old School  
Colne Road  
Earith  
Cambridge  
PE28 3PX  
UK

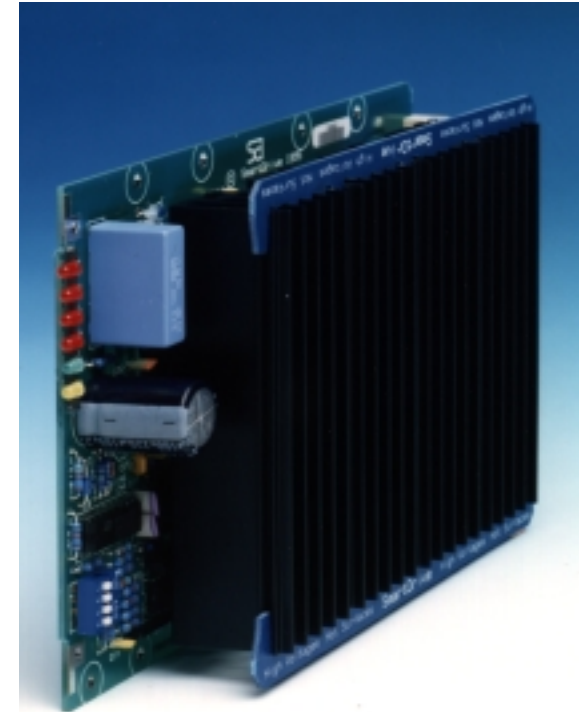
☎ +44 (0)1487 843663  
✉ +44 (0)1487 843661  
💻 <http://www.smartdrive.co.uk>  
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*Before returning any goods please contact SmartDrive to obtain a Returned Goods Number.*



## Half Stepping Drive Quick Reference Guide

D28/6, D28/9, D55/6, D55/9, D75/9, D110/9, D165/9



The advanced design of the D series drive using MOSFET technology enables continuous winding currents of up to 16.5A (peak). In Addition the D series drives will protect themselves against all motor winding faults including winding shorts as well as supply related faults. For ease of installation we recommend the use of SmartDrive's range of dedicated drive backplanes, for more information contact the SmartDrive Sales department.

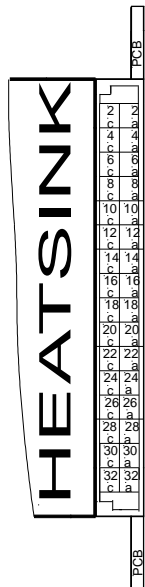
## Current Switch Settings



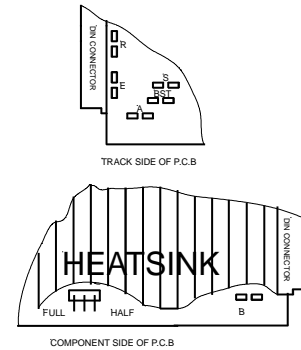
DIP Switch

Switch Setting				Peak Current With Boost ON (Amps)				
SW1	SW2	SW3	SW4	D28	D55	D75	D110	D165
ON	ON	ON	ON	0.875	1.75	0.5	3.5	5.25
ON	ON	ON	OFF	1	2	1	4	6
ON	ON	OFF	ON	1.125	2.25	1.5	4.5	6.75
ON	ON	OFF	OFF	1.25	2.5	2	5	7.5
ON	OFF	ON	ON	1.375	2.75	2.5	5.5	8.25
ON	OFF	ON	OFF	1.5	3	3	6	9
ON	OFF	OFF	ON	1.625	3.25	3.5	6.5	9.75
ON	OFF	OFF	OFF	1.75	3.5	4	7	10.5
OFF	ON	ON	ON	1.875	3.75	4.5	7.5	11.25
OFF	ON	ON	OFF	2	4	5	8	12
OFF	ON	OFF	ON	2.125	4.25	5.5	8.5	12.75
OFF	ON	OFF	OFF	2.25	4.5	6	9	13.5
OFF	OFF	ON	ON	2.375	4.75	6.5	9.5	14.25
OFF	OFF	ON	OFF	2.5	5	7	10	15
OFF	OFF	OFF	ON	2.625	5.25	7.5	10.5	15.75
OFF	OFF	OFF	OFF	2.75	5.5	8	11	16.5

## Drive Connections



Pin	Function	Pin	Function
2c	Motor Winding 2A	2a	Motor Winding 2A
4c	Motor Winding 2B	4a	Motor Winding 2B
6c	Motor Winding 1A	6a	Motor Winding 1A
8c	Motor Winding 1B	8a	Motor Winding 1B
10c	N/C	10a	+V Logic Supply 18-30V
12c	+V Winding Supply 27-94V	12a	+V Winding Supply 27-94V
14c	+V Winding Supply 27-94V	14a	+V Winding Supply 27-94V
16c	0V Winding Supply	16a	0V Winding Supply
18c	Reset Input	18a	0V Winding Supply
20c	Fault Condition Output	20a	Fault Condition Output
22c	Phase (0) Output	22a	Phase (0) Output
24c	Sync. Output	24a	Boost Input
26c	N/C	26a	Direction Input
28c	Sync. Input	28a	Clock Input
30c	External Current Setting A	30a	Energise Motor
32c	External Current Setting B	32a	0V (Logic Supply)



## Links

Label	Function
R	Link for external Reset
E	Link to permanently energise drive
S	Link for external Sync in
BST	Link for Boost always ON
A	Link for external current control
B	Link for external current control
FULL-HALF	Full / half step selection

## Inputs & Outputs

### Clock

Falling edge advances the motor by one step/half step.

### Boost

Active low signal. Boost must be held low to obtain the rated current set by the DIL switch. With boost held high the current is 75% of the current setting.

### Reset

Active low signal. Falling edge resets drive and clears the trip circuits. The drive is held in a reset state as long as Reset is low, hence the motor will be de-energised. For this feature link R must be made.

### Direction

Sets the direction of motor rotation. Direction will depend on the wiring of the motor.

### Energise

Active low signal. Switches output to motor on.

### Fault

Open collector output. Output is pulled low whilst the drive is ok. The output is high during fault conditions and power up.

### Phase 0

Open collector output, 5mA. On the D Series drive this output goes low when equal current is flowing out of 1A and 2B, irrespective of energise.

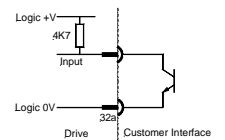
### External Current Setting

The external current setting allows drive current to be set via an external resistor. Contact SmartDrive for details.

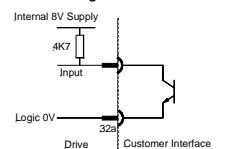
### Sync In & Sync Out

These two connections are used for synchronising the chopping frequency of two or more drives. Contact SmartDrive for details.

Clock, Boost, Reset & Direction



Energise



Fault & Phase 0

