

# Integrated brushless servo units

# IPM series

A matched IPM integrated servo unit is available for each BLS series servo motor. Alternatively the IPM series can be configured for use with many other Brushless dc servo motors equipped with either a resolver or encoder.



**IPM100**

Designed for integration in Customer's equipment



**IPM240**

**IPM640**

## Key features

- Fully digital servo amplifier with embedded intelligence
- Programmable with graphical Technosoft motion studio software that operating on MS WINDOWS platform
- Integrated DSP for optimisation of motor parameters & programmable positional control
- Suitable for use with dc brushed servo motors or 3 phase brushless servo motors
- Choice of analogue ( $\pm 10V$ ) or digital (clock & direction) control input signals
- Variable control modes including torque or velocity or position.
- Programmable position control via RS232 or RS485 or optional CAN bus interface.
- External variables control capability using pressure, flow or temperatures traducers
- 4 programmable digital outputs  
5 programmable digital inputs
- Dual track quadrature input for accurate positioning
- Optional motor resolver input for position feedback
- Compact construction with integrated power stage providing up to 640 watts output power

## Specification

Model		IPM100	IPM240	IPM640
Motor rail supply	Vdc	24-36	24-48	24-80
Logic supply	Vdc	5	Generated internally	
Motor supply voltage	Vdc	As motor rail supply		
Max. continuous motor current	Amps	3	5	8
Max. peak motor current	Amps	6	15	16
Dimensions	mm	104 x 63.5 x 10	136 x 84.5 x 26	
Minimum motor inductance	$\mu H$	200		
Power stage switching frequency	KHz	20 ( typical )		
Operating ambient temperature range	Deg C	0-50		
Slave control mode inputs		Digital: Clock / direction    Analogue: $\pm 10 V$		
Position control inputs		RS232 or RS485		
Motor types		Dc brushed servo with tachometer or encoder feedback    or 3 phase Brushless servo motor with hall effect of encoder feedback		
Control loop modes		Torque, speed, position		
Programmable digital inputs		4	4: Optically isolated	
Programmable digital outputs		5	5: Optically isolated	

## Total control flexibility

IPM series drive units utilise the latest DSP technology. The use of a single DSP to provide all internal logic functions provides extreme control flexibility at highly competitive cost.

## Using external motion controllers

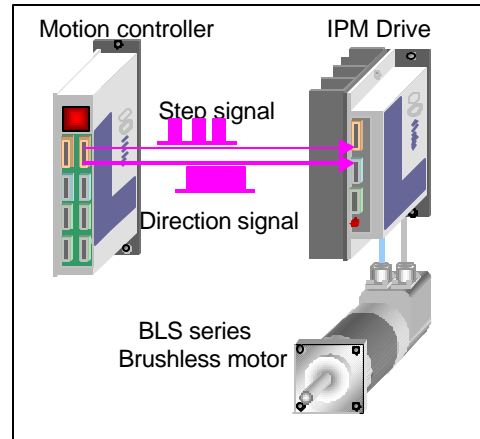
Where users have developed systems using specialist position controllers the IPM drives may be used to provide an efficient velocity or torque control loop drive within the system:

### Using external step / direction input signals

IPM drives may be used to replace stepper motor drives while retaining the original stepper system motion controller

The advantages of BLS series Brushless system are:

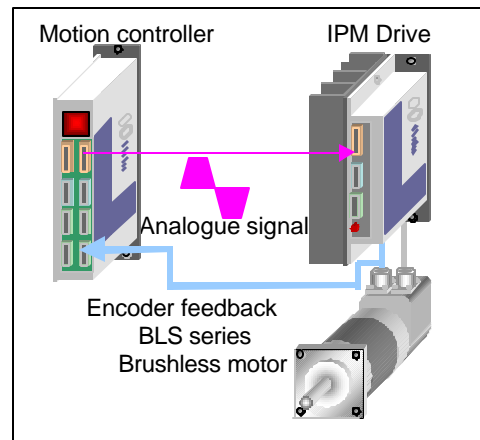
- Closed loop control
- Improved positioning reliability
- Increased resolution



### Using $\pm 10V$ analogue input signals

IPM drives may be used with classical servo motor controllers that provide an analogue output signal

The BLS series motors utilise dual track encoders with differential outputs that provide a resolution of 2000 counts per revolution of the motor. These signals may be used by external servo motor motion controllers for closed loop position control



## Using the IPM drive's integrated motion controller

The advantage of the IPM drive's advanced technology is that the DSP is not only utilised to provide the brushless drive stage logic but also a full motion control capability with no significant cost penalty.

The ability of the IPM series integrated drive to offer a full stand-alone motion control capability results in considerable overall cost saving.

