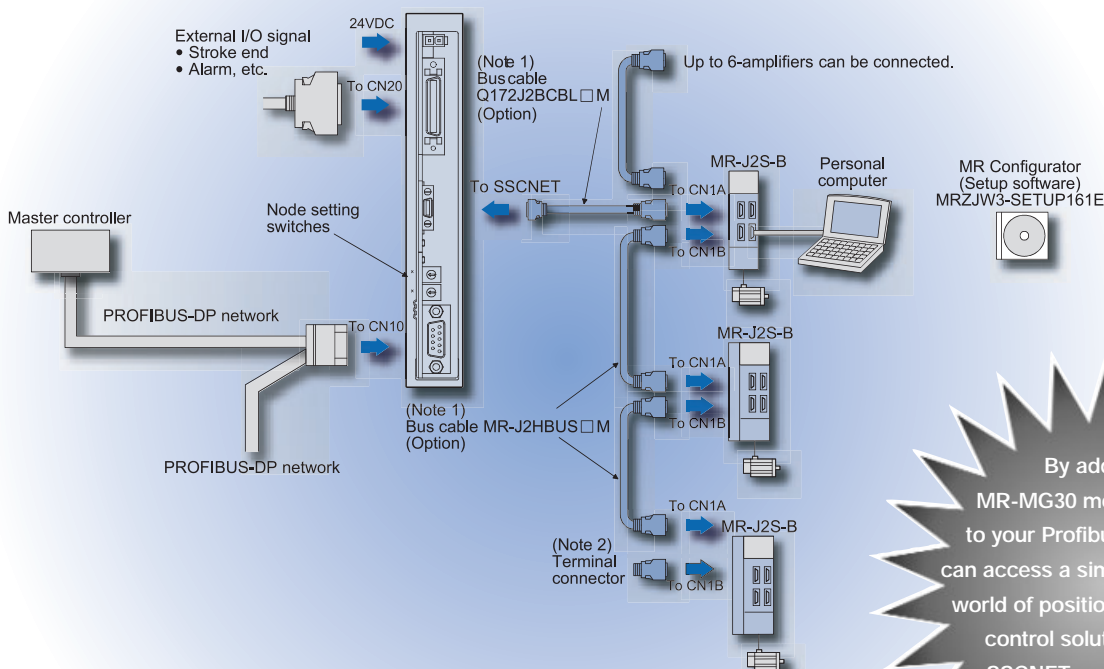




**SSCNET**  
SERVO SYSTEM CONTROLLER NETWORK

October 2004  
No. EBG149E  
**MR-MG30**  
**MOTION GATEWAY**

## Build a simple positioning system on your Profibus Network



By adding an  
MR-MG30 motion gateway  
to your Profibus network you  
can access a simpler, yet superior  
world of positioning and motion  
control solutions through  
SSCNET, a world leading  
motion network.



- Faster operation by using high speed motion



- Quicker implementation because you have simpler operation



- Improved quality through greater accuracy



- More flexibility from a wider range of motion options



## SPEED UP

### ● Faster operation by using high speed motion

Support your Profibus network with the high speed SSCNET motion network with a cycle time of less than 0.8ms

## SIMPLER OPERATION

### ● Quicker implementation because you have simpler operation

SSCNET compliments your existing Profibus network by offering a simple plug and play design with a dedicated motion control concept.

## IMPROVED QUALITY

### ● Improved quality through greater accuracy

Connect up to six of the latest market leading MR-J2S-B SSCNET amplifiers on to your Profibus network for greater motion control by using standard features such as:

- Encoder resolutions up to 131,072 pulses per revolution
- Built in Real-Time Auto Tuning (RTAT) and Adaptive Vibration control for automatically optimised machine control

## MORE FLEXIBILITY

### ● More flexibility from a wider range of motion options

With the specialist motion network SSCNET, you have access to a wide range of motion solutions:

- 100, 200 and 400V servo amplifiers
- Servo motor capacities from 0.05 to 110kW
- Pancake, Hollow Shaft, Micro motors and braked motors are just a few of your options
- MR-J2S motors with built in Absolute encoder

## 1. Bringing Profibus and SSCNET together

The MR-MG30 network gateway brings together two leading network technologies to truly integrate servo motion with machine, plant and process control. The gateway enables the use of Profibus-DP fieldbus to manage and control the discreet elements of production machinery without having to compromise any precision motion requirements. The connection to a world of high precision, high performance servo systems is through the module's second network connection to SSCNET (Servo System Controller NETWORK).

## 2. A gateway to success

Each MR-MG30 gateway placed on a Profibus-DP network allows up to six SSCNET enabled servo amplifiers to be controlled and managed remotely via the Profibus network. The benefits of Profibus-DP with its open architecture and efficient data word structure, are complimented by SSCNET's access to a wide range of servo motor designs (such as hollow shaft, pancake, keyed and non-keyed etc.) with a comprehensive power range (available in sizes up to 110kW) and with built in high resolution encoders (131072 p/rev) as standard.

## 3. Advantages of SSCNET motion solutions

By using the MG30 gateway, Profibus-DP users can utilise amplifiers with advanced Real-Time Auto Tuning (RTAT). This makes system commissioning and design quicker and simpler as SSCNET servo systems automatically tune their performance to the overall machines performance. In addition, SSCNET amplifiers have Adaptive Vibration control which reduces machine vibration, allowing them to operate more efficiently, more accurately and for a greater period of time before maintenance. Profibus users do not have to learn in-depth SSCNET programming rules as control and operation can be setup and controlled by simple parameter settings within Profibus and processed through the MR-MG30.



## Key Benefits

SSCNET is a dedicated Mitsubishi network - this has many advantages:

- Single point of support for all technical issues
- No compatibility issues - Mitsubishi owns the core technology
- Specifically designed for purpose - Motion Control
- Lower cost of ownership
- Fast integration and system set-up
- Simple diagnostics and fault finding
- Plug and Play style connection
- Pre-made cables and connectors available

### Key features and benefits:

- The overall system is simple to set-up and configure
- Servo amplifier and motor data is sent back to controller automatically
- Servo amplifier settings can be changed directly from the controller

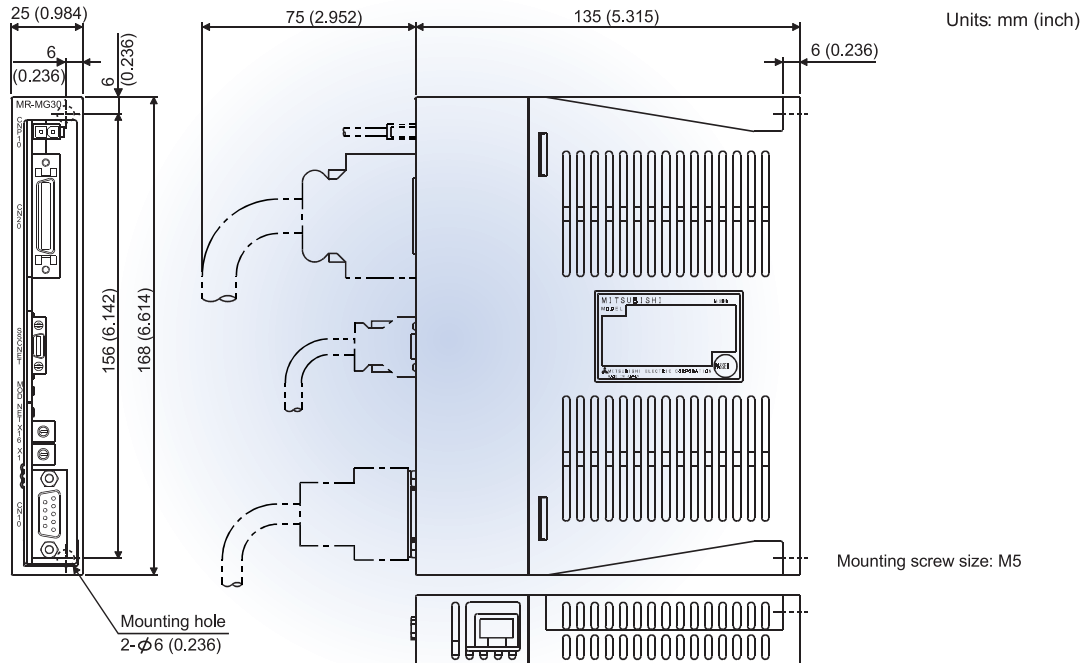
## Specifications

Item		MR-MG30					
Amplifier model		Mitsubishi MELSERVO-J2-Super (MR-J2S-□B1, MR-J2S-□B or MR-J2S-□B4)					
Power supply	Voltage	24 V DC					
	Permissible voltage fluctuation	24 V DC ±10 %					
	Power supply capacity	10 W					
Interface power supply		24 V DC ±10 %, 500 mA or more					
Operation mode	Automatic mode (direct designation)	Performs positioning using the position command, speed command etc. set with PROFIBUS/DP communication					
	Interrupt positioning operation mode	After an interrupt is input, the axis moves by the commanded position amount set with PROFIBUS/DP communication, and then stops.					
	Manual operation mode	Performs in accordance with the parameter-set speed command.					
	Home position return mode	Dog type, Count type, Data set type, Home position ignorance (Servo-on position as home position), Dog type rear end reference, Count type front end reference, Dog cradle type					
	Automatic positioning to home position	Automatically returns to a defined home position at high speed.					
Other functions		Absolute position detection, backlash compensation function, Overtravel prevention using external limit switch, software stroke limit, speed change					
Communication profile		PROFIBUS/DP (slave) Version 0					
Transmission specifications	Electrical standard and characteristics	RS-485 compatible					
	Medium	Shielded twisted copper wire cable type A					
	Transmission encoding mode	NRZ					
	Transmission speed / maximum transmission distance (Note 1)	Communication speed	9.6 kbps, 19.2 kbps, 93.75 kbps	187.5 kbps	500 kbps	1.5 Mbps	3 Mbps, 6 Mbps, 12 Mbps
		Total extension distance	1200 m (3937 ft)	1000 m (3280 ft)	400 m (1312 ft)	200 m (656 ft)	100 m (328 ft)
Node address		0 to 125 (Note 2)					
Structure		Self cooling, open (IP00)					
Environment	Ambient temperature	0 to 55 °C (32 to 131 °F) (non freezing), storage: -20 to 65 °C (-4 to 149 °F) (non freezing)					
	Ambient humidity	90 % RH maximum (non condensing), storage: 90 % RH maximum (non condensing)					
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust					
	Altitude / vibration	Up to maximum of 1000 m (3280 ft) above sea level / 5.9 m/s <sup>2</sup> maximum					
Mass		0.5 kg (1.10 lb)					

Notes: 1. The above values are when using the type A cable.

2. Depending on the master, node addresses 0, 1, 124 and 125 may not be usable.

# External Dimensions



## Product list

Product name	Model	Article Number
Profibus to SSCNET network gateway	MR-MG30	157643

## Manual

Manual name	Language	Article Number
MR-MG30 Users Manual	English	159569
MR-MG30 Bedienungsanleitung	German	159473
MR-MG30 Manuel d'utilisation	French	159484

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