

## PRESSEMITTEILUNG

Offenbach am Main, Thursday, October 12, 2006

### Servo System , Faldic W series

The range of applications for servo systems is increasing everyday, including the field of general machinery (conveyance, printing machines, packaging,..), achieving better mechanical performance and higher precision, therefore increasing productivity. Some added requirements are availability for severe operation environments and easy set up.

Responding to these marketplace requirements Fuji Electric has developed recently FALDIC W, as a continuation of its previous series.



Figure 1. Appearance of FALDIC W series

Figure 1 shows the external appearance of FALDIC W series, which consists in three model types:

- GYS□□□DC2-T2. Low inertia motors with a rated speed of 3000 rpm (maximum speed of 5000 rpm), and a rated torque from 0.159 N·m to 2.39 N·m.
- GYG□□□CC2-T2. Middle inertia motors with a rated speed of 2000 rpm (maximum speed of 3000 rpm), and a rated torque from 2.39 N·m to 9.55 N·m.
- GYG□□□BC2-T2. Middle inertia motors with a rated speed of 1500 rpm (maximum speed of 3000 rpm), and a rated torque from 3.18 N·m to 18 N·m.

All models can be selected with or without parking brake. The protection degree to dust and water is IP67.

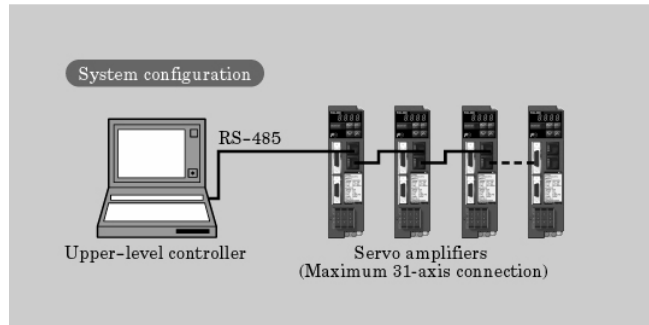


Figure 2. Daisy chain connection of the serial port

The basic features of FALDIC W servo amplifier are:

- The mains supply is single phase 200 V for small capacities (up to 0.75 kW) and 3 phase 200 V for bigger capacities (0.85 kW and above).
- The feedback used is a 17 bit incremental encoder, achieving a resolution of 131072 pulses per revolution. This encoder is connected via serial communication to the amplifier, simplifying the installation.
- Can be used for torque control, speed control or position control (pulse follower and synchronous operation).
- The frequency response of the speed loop is 600 Hz.
- The operating temperature is from -10 to 55 °C.
- Can be installed side-by-side (wiring connectors are on the front and bottom panels).
- Is equipped with one RS485 serial port with two connectors (figure 2), allowing an easy daisy chain connection (up to 31 units can be connected).

FALDIC W amplifier is equipped with the following high performance functions:

- Vibration suppression and notch filter functions. The amplifier is equipped with functions for both vibration suppression control (in the case of low mechanical rigidity axis) and notch filtering (in the case of high mechanical rigidity axis). To ease the adjustment of these functions the PC loader software is equipped with a servo analyze routine, that displays in graphical format (Bode plot) the axis response on the PC screen. From this analysis is easy to set up directly both vibration suppression control and notch filter parameters.
- Pattern operation. The amplifier can generate a motion pattern (as shown in figure 3), that performs reciprocal movements (forwards and backwards). In this motion pattern the stroke, speed, acceleration and deceleration can be set. In a real application this allows to verify the operation of the servo (overload level, motor suitability,...) before the upper-level controller (motion controller) is ready.

- Easy tuning. This function can be set to adjust automatically the amplifier gains. When active, this function will increase/decrease automatically the gains to achieve the best performance. Also the load inertia ratio is measured automatically. In the case resonant vibration is detected, the easy tuning function automatically decreases the gain, sets a notch filter, and then increases the gain again. This function is very easy to use: just activate it and the adjustment is performed entirely by the servo amplifier. When completed, the gain values are reflected on the parameter setting.
- Z phase offset adjustment. The position of the Z signal can be easily adjusted, by just moving the machine to the desired position and activating the automatic adjustment function.

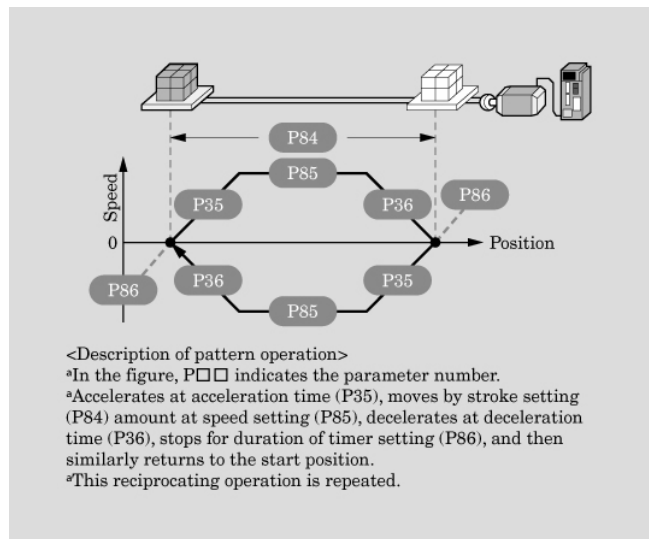


Figure 3. Pattern operation

A free PC loader software is available that allows to set up easily the amplifier, use the described functions and also allows to upload/download complete parameters sets, thus avoiding mistakes when setting parameters in mass production.

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