

ESC3000Z Series User-Friendly Functions

In this paper we introduce you about ESC3000Z's user-friendly functions.

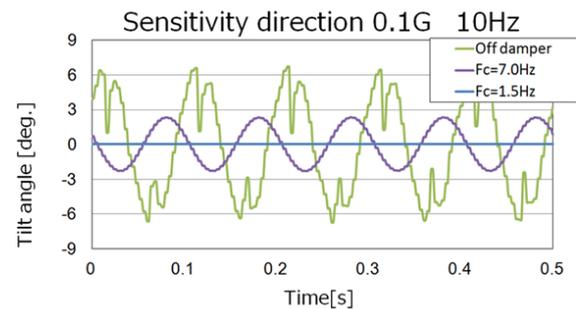
Function (1) Programmable Digital Damping Control

• Inclination measurement under vibration environment

ESC3000Z series implements the digital filter that would remove influence of vibration to give the user a choice of certain filter factor from 16 available settings.

Existing inclinometers have to be added extra electrical low-pass filter or mechanical damping structure.

Digital filter or ESC3000Z series makes wider choice of cut-off frequency and easy to design frequency response.



Cut-off frequency and Time constant against Damper setting are shown the below table.

It is possible to choose the best Damper time constant by operating speed and vibration condition.

Part No.	Level	Cut-off frequency	Time constant
D0	0	11.2Hz	120ms
D1	1	9.27Hz	150ms
D2	2	7.65Hz	160ms
D3	3	6.32Hz	170ms
D4	4	5.21Hz	190ms
D5	5	4.30Hz	220ms
D6	6	3.55Hz	250ms
D7	7	2.93Hz	290ms
D8	8	2.42Hz	330ms
D9	9	2.00Hz	360ms
DA	10	1.65Hz	420ms
DB	11	1.36Hz	500ms(Standard)
DC	12	1.21Hz	590ms
DD	13	0.92Hz	700ms
DE	14	0.76Hz	810ms
DF	15	0.62Hz	970ms

Note: Frequency response is set before shipping.

Programmable function changing the setting by customers will be option.

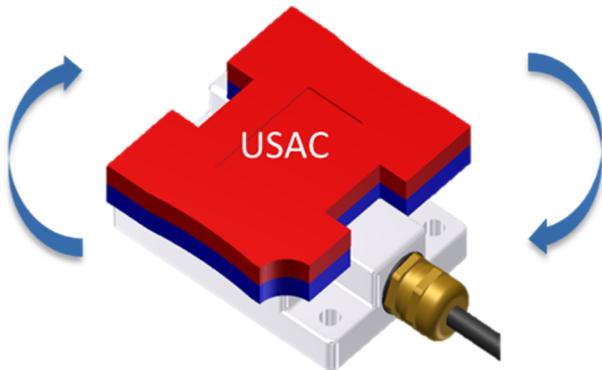
Function (2) Easy Resetting of by “USAC: User-Settable Adjustment Card”

•Easy Resetting Function for Index Point(0°)

Most of inclinometers has requirement of 0°adjustment to mounting surface, it has been worked with electrical adjustment by trimmer or mechanical adjustment by mounting board.

ESC3000Z series can be resetting output position by command control.

Moreover User-Settable Adjustment Card (USAC) can reset 0°adjustment without electrical connection at the field.



Touch USAC 3 times each 180° CW rotation to ESC3000Z.

Only 5 seconds to reset index point (0°) using USAC.

(1) Please touch ESC 3times with USAC.

(2) Then current position ($\pm 5^\circ$ max./horizontality) will be changed to index point.

Any electrical connections do not required.

*Note: USAC is the optional item.

Function (3) Serial Communication

•Serial communication Function

This series has RS485 interface as standard function. Using RS485 serial interface command, the following functions will be able to be used.

1. Retrieving of electrical angle position.
2. Retrieving of Serial number.
3. Teach-in setting of index (0°) point. (Option)
4. Changing of electrical analog angle range. (Option)
5. Changing damper setting. (Option)
6. Changing baud rate. (Option)
7. Changing output cycle of serial data. (Option)

■ Requesting other serial interface as SAE J1939 & CANopen, please contact us.

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