## **Frequency converter**



**Ordering code** 



| Code         Input           55         45 to 55Hz<br>(center frequency 50Hz)           56         45 to 65Hz<br>(for 50/ 60hz in common)           65         55 to 65Hz<br>(center frequency 60Hz)           99         Contact us for other than the above<br>(Between 40 to 70Hz) | ↓   |    |                                     |
|---|-----|----|-------------------------------------|
| 55       45 to 55Hz<br>(center frequency 50Hz)         56       45 to 65Hz<br>(for 50/ 60hz in common)         65       55 to 65Hz<br>(center frequency 60Hz)         99       Contact us for other than the above<br>(Between 40 to 70Hz)  | Cod | le | Input                               |
| <ul> <li>(center frequency 50Hz)</li> <li>45 to 65Hz<br/>(for 50/ 60hz in common)</li> <li>55 to 65Hz<br/>(center frequency 60Hz)</li> <li>Contact us for other than the above<br/>(Between 40 to 70Hz)</li> </ul>  | 55  |    | 45 to 55Hz                          |
| 56       45 to 65Hz<br>(for 50/ 60hz in common)         65       55 to 65Hz<br>(center frequency 60Hz)         99       Contact us for other than the above<br>(Between 40 to 70Hz)   |     |    | (center frequency 50Hz)             |
| <ul> <li>(for 50/ 60hz in common)</li> <li>55 to 65Hz<br/>(center frequency 60Hz)</li> <li>99 Contact us for other than the above<br/>(Between 40 to 70Hz)</li> </ul>   | 56  |    | 45 to 65Hz                          |
| <ul> <li>65 55 to 65Hz<br/>(center frequency 60Hz)</li> <li>99 Contact us for other than the above<br/>(Between 40 to 70Hz)</li> </ul>  |     |    | (for 50/ 60hz in common)            |
| <ul> <li>(center frequency 60Hz)</li> <li>Contact us for other than the above (Between 40 to 70Hz)</li> </ul>   | 65  |    | 55 to 65Hz                          |
| <b>99</b> Contact us for other than the above (Between 40 to 70Hz)  |     |    | (center frequency 60Hz)             |
| (Between 40 to 70Hz)  | 99  |    | Contact us for other than the above |
|   |     |    | (Between 40 to 70Hz)                |

| <del>\</del> |                                     |                |  |
|--------------|-------------------------------------|----------------|--|
| Code         | Output                              | Allowable Load |  |
| Α            | 4 to 20mAdc                         | 500Ω or less   |  |
| В            | 1 to 5mAdc                          | 2kΩ or less    |  |
| С            | 2 to 10mAdc                         | 1kΩ or less    |  |
| D            | 0 to 1mAdc                          | 10kΩ or less   |  |
| E            | 0 to 10mAdc                         | 1kΩ or less    |  |
| F            | 0 to 16mAdc                         | 625Ω or less   |  |
| G            | 0 to 20mAdc                         | 500Ω or less   |  |
| Н            | 1 to 5Vdc                           | 2.5kΩ or more  |  |
| I            | 4.5 to 6.5Vdc                       | 2.5kΩ or more  |  |
| J            | 0 to 10mVdc                         | 10kΩ or more   |  |
| K            | 0 to 100mVdc                        | 100kΩ or more  |  |
| L            | 0 to 1Vdc                           | 500Ω or more   |  |
| N            | 0 to 5Vdc                           | 2.5kΩ or more  |  |
| Р            | 0 to 10Vdc                          | 5kΩ or more    |  |
|              | Contact us for other than the above |                |  |
| S            | Current output 20mA or less         |                |  |
|              | Voltage output 10                   | OV or less     |  |

This plug-in converter accepts the commercial power frequency

The, converter allows accurate measurement of distorted waves. The low ripple outpur signals are ideal for computers since they are

★ Dielectric strength of 2000Vac between input, output and power supply

★ Required no auxiliary power supply by rationalized circuit configuration

★ The ripple contained in its output signal is 0.5% (p-p) FS or less

input and provides isolated DC voltage or current output.

hardly affected by load resistance.

★ Easy maintenance by plug-in structure

**Features** 

| •    |                     |
|------|---------------------|
| Code | Supply voltage      |
| 1    | 100Vac ±10% 50/60Hz |
| 2    | 200Vac ±10% 50/60Hz |
| 4    | 110Vac ±10% 50/60Hz |
| 5    | 220Vac ±10% 50/60Hz |



## **Specifications**

| Operating principles        | F/V system (frequency / voltage)                 |
|-----------------------------|--|
| Accuracy                    | ±0.2% FS (at 23°C)                               |
| Allowable excessive input   | Voltage : 200% 5 seconds                         |
| Response time               | Approx. 1s ( 0 to 90%)                           |
| Output ripple               | 0.5% (p-p) FS or less                            |
| Allowable load resistance   | Current output                                   |
|                             | 10V or less of voltage drop                      |
|                             | between output terminal                          |
|                             | Voltage output                                   |
|                             | Load current 2mA or less                         |
|                             | For 1V FS or less of output the current is       |
|                             | 1µA or less                                      |
| Zero & span adjustment      | ±10% FS (3 turn trimmer)                         |
| Operating temperature       | -5 to +55°C                                      |
| Operating relative humidity | 90% or less (non-condensing)                     |
| Temperature coefficient     | ±0.02% FS of span per °C                         |
| Insulation resistance       | 100MΩ or more with a 500Vdc megger               |
|                             | Between input, output, and power supply terminal |
| Dielectric strength         | 2000Vac for 1 minute                             |
| Power consumption           | Approx. 4VA (AC)                                 |
| Power supply                | Not required                                     |
| Dimensions                  | 97(H) X 51(W) X 126(D)mm                         |
| Weight                      | Approx. 400g                                     |
| Structure                   | Plug-in  |
| Connection                  | M3.5 SEMS screw part of the base socket          |
| Material of terminal screw  | Chromated iron                                   |
| Case color and material     | Ivory, heat-resistant ABS resin                  |
| Mounting                    | DIN rail or wall surface                         |

## **Terminal connections**



| No connection |
|---------------|
|               |

\* Specification is subject to change without notice

## Watanabe Electric Industry Co. Ltd.

https://watanabe-electric.co.jp/en/