# APPLICATION NOTE  YASKAWA

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| **Title:** Using SLIO counter modules in MotionWorks IEC | |
| **Product(s):** Yaskawa SLIO modules 050-xxxxx | **Doc. No. AN.SLIO.01** |

## Product Overview

Yaskawa offers several SLIO modules that have counter and frequency measurement functionality. The supported counter and frequency measurement modules are:

To make the counter or frequency data valid, a bit in the control word must be set to start the counting process. For counter modules, this enable bit is called the Software Gate and the input is called SW_GATE_SET in the SLIO documentation. For frequency measurement modules, the bit is called CTRL_FM_START.

| Module No. | Description | Control Word | Addr. Offset | Enable Bit | Disable Bit |
|---|---|---|---|---|---|
| 050-1BA00 | Counter, 1x32bit 24V | CCTRL_I | +8 | 2:SW_GATE_SET | 10:SW_GATE_RESET |
| 050-1BA10 | Counter, 1x32bit 5V | CCTRL_I | +8 | 2:SW_GATE_SET | 10:SW_GATE_RESET |
| 050-1BB00 | Counter, 2x32bit 24V | CCTRL_I | +8 | 2:SW_GATE_SET | 10:SW_GATE_RESET |
| | | CCTRL_II | +10 | 2:SW_GATE_SET | 10:SW_GATE_RESET |
| 050-1BB30 | Counter Eco, 2x32bit 24V | CCTRL_I | +0 | 2:SW_GATE_SET | 10:SW_GATE_RESET |
| | | CCTRL_II | +2 | 2:SW_GATE_SET | 10:SW_GATE_RESET |
| 050-1BB40 | Frequency Measurement, 2x24bit 24V | FM_CONTROL_CH0 | +8 | 8:CTRL_FM_START | 9:CTRL_FM_STOP |
| | | FM_CONTROL_CH1 | +10 | 8:CTRL_FM_START | 9:CTRL_FM_STOP |
| 050-1BS00 | SSI encoder module | N/A (Always enabled) | | | |

The control word is automatically generated by Hardware Configuration for SLIO Mechatrolink-3 bus coupler 053-1ML00. Function blocks that break out the control and status words for these modules are available in the Yaskawa Toolbox (v3.6 and up).