

## Analog Input Modules



Analog input modules receive signals from current and voltage input devices. Modules require a carrier base (IC200CHSxxx).

|                                                | IC200ALG230                                                                                                              | IC200ALG240                                                                                                              | IC200ALG260                                                                                                              | IC200ALG261                                                                                                              |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Product Name</b>                            | VersaMax Analog Input Module, 12 Bit Voltage/Current, 4 Channels                                                         | VersaMax Analog Input Module, 16 Bit Voltage/Current Isolated, 8 Channel                                                 | VersaMax Analog Input Module, 12 Bit Voltage/Current, 8 Channel                                                          | VersaMax Analog Input Module, 15 Bit Differential Voltage, 8 Channel                                                     |
| <b>Lifecycle Status</b>                        | Active                                                                                                                   | Active                                                                                                                   | Active                                                                                                                   | Active                                                                                                                   |
| <b>Input Range</b>                             | ±10 VDC or 0-10 VDC                                                                                                      | ±10 VDC, 4-20 mA                                                                                                         | 4-20 mA, ±10 VDC or 0-10 VDC                                                                                             | ±10 VDC                                                                                                                  |
| <b>Number of Channels</b>                      | 4                                                                                                                        | 8 Channel to channel isolated                                                                                            | 8                                                                                                                        | 8                                                                                                                        |
| <b>External Power Supply</b>                   | None                                                                                                                     | Range: 19.5-30 VDC including ripple; Current consumption: 100 mA maximum plus load currents                              | None                                                                                                                     | None                                                                                                                     |
| <b>Resolution</b>                              | Bipolar mode: 2.5 mV = 8 counts, Unipolar mode: 2.5 mV = 8 counts                                                        | Current mode: 381 nA nominal Voltage mode: 381 µV nominal                                                                | Current mode: 4 µA = 8 counts, Bipolar mode: 2.5 mV = 8 counts, Unipolar mode: 2.5 mV = 8 counts                         | Bipolar mode: 0.3125 mV = 1 counts                                                                                       |
| <b>Update Rate</b>                             | 0.4 ms                                                                                                                   | Approximately 20 mS max. @ 50 Hz filter frequency<br>Approximately 16.7 mS max. @ 60 Hz filter frequency                 | 0.4 ms                                                                                                                   | 7.5 ms                                                                                                                   |
| <b>Accuracy at 25°C</b>                        | ±0.3% typical of full scale, ±0.5% maximum of full scale                                                                 | ±0.1% maximum of full scale                                                                                              | ±0.3% typical of full scale, ±0.5% maximum of full scale                                                                 | ±0.3% typical of full scale, ±0.5% maximum of full scale                                                                 |
| <b>Input Impedance</b>                         | Voltage mode: 126 kOhms maximum, Current mode: 200 Ohms maximum                                                          | N/A                                                                                                                      | Voltage mode: 126 kOhms maximum, Current mode: 200 Ohms maximum                                                          | Voltage mode: 100 kOhms maximum                                                                                          |
| <b>Input Filter Response</b>                   | 5.0 ms                                                                                                                   | N/A                                                                                                                      | 5.0 ms                                                                                                                   | N/A                                                                                                                      |
| <b>5V Backplane Current Consumption (mA)</b>   | 125 maximum                                                                                                              | 15 maximum                                                                                                               | 130 maximum                                                                                                              | 200 maximum                                                                                                              |
| <b>3.3V Backplane Current Consumption (mA)</b> | N/A                                                                                                                      | 120 maximum                                                                                                              | N/A                                                                                                                      | N/A                                                                                                                      |
| <b>LED Indicators</b>                          | INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.          | FLD PWR LED indicates the presence of both logic power and user power. OK LED indicates module status.                   | INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.          | INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.          |
| <b>Dimensions (W x H x D)</b>                  | 110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors | 110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors | 110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors | 110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors |

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|                                                | IC200ALG262                                                                                                               | IC200ALG263                                                                                                               | IC200ALG264                                                                                                               |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Product Name</b>                            | VersaMax Analog Input Module,<br>15 Bit Differential Current,<br>8 Channel                                                | VersaMax Analog Input Module,<br>15 Bit Voltage,<br>15 Channel                                                            | VersaMax Analog Input Module,<br>15 Bit Current,<br>15 Channel                                                            |
| <b>Lifecycle Status</b>                        | Active                                                                                                                    | Active                                                                                                                    | Active                                                                                                                    |
| <b>Input Range</b>                             | 0 to 20 mA or 4 to 20 mA                                                                                                  | ±10 VDC                                                                                                                   | 0 to 20 mA or 4 to 20 mA                                                                                                  |
| <b>Number of Channels</b>                      | 8                                                                                                                         | 15                                                                                                                        | 15                                                                                                                        |
| <b>External Power Supply</b>                   | None                                                                                                                      | None                                                                                                                      | None                                                                                                                      |
| <b>Resolution</b>                              | 4 to 20 mA: 0.5micro Amp= 1 count;<br>0 to 20 mA: 0.625micro Amp = 1 count                                                | Bipolar mode: 0.3125 mV = 1 count                                                                                         | 4 to 20 mA: 0.5micro Amp= 1 count;<br>0 to 20 mA: 0.625micro Amp = 1 count                                                |
| <b>Update Rate</b>                             | 7.5 ms                                                                                                                    | 7.5 ms                                                                                                                    | 7.5 ms                                                                                                                    |
| <b>Accuracy at 25°C</b>                        | ±0.3% typical of full scale,<br>±0.5% maximum of full scale                                                               | ±0.3% typical of full scale,<br>±0.5% maximum of full scale                                                               | ±0.3% typical of full scale,<br>±0.5% maximum of full scale                                                               |
| <b>Input Impedance</b>                         | Current mode:<br>100 kOhms maximum                                                                                        | Voltage mode:<br>100 kOhms maximum                                                                                        | Voltage mode:<br>100 kOhms maximum,<br>Current mode:<br>200 Ohms maximum                                                  |
| <b>Input Filter Response</b>                   | N/A                                                                                                                       | N/A                                                                                                                       | 24 Hz ±20%                                                                                                                |
| <b>5V Backplane Current Consumption (mA)</b>   | 200 maximum                                                                                                               | 150 maximum                                                                                                               | 100 maximum                                                                                                               |
| <b>3.3V Backplane Current Consumption (mA)</b> | N/A                                                                                                                       | N/A                                                                                                                       | N/A                                                                                                                       |
| <b>LED Indicators</b>                          | INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.           | INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.           | INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.           |
| <b>Dimensions (W x H x D)</b>                  | 110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in) , not including the height of the carrier or the mating connectors | 110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in) , not including the height of the carrier or the mating connectors | 110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in) , not including the height of the carrier or the mating connectors |

## Analog Output Modules



Analog output modules provide voltage or current signals to analog output devices. Modules require a carrier base (IC200CHSxxx).

|                                                | IC200ALG320                                                                                                                       | IC200ALG321                                                                                                                       | IC200ALG322                                                                                                                       |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Name</b>                            | VersaMax Analog Output Module,<br>12 Bit Current, 4 Channel                                                                       | VersaMax Analog Output Module,<br>12 Bit 0-10V Voltage, 4 Channel                                                                 | VersaMax Analog Output Module,<br>12 Bit $\pm 10V$ Voltage, 4 Channel                                                             |
| <b>Lifecycle Status</b>                        | Active                                                                                                                            | Active                                                                                                                            | Active                                                                                                                            |
| <b>Output Range</b>                            | 4-20 mA                                                                                                                           | 0-10 VDC                                                                                                                          | $\pm 10$ VDC                                                                                                                      |
| <b>Number of Channels</b>                      | 4                                                                                                                                 | 4                                                                                                                                 | 4                                                                                                                                 |
| <b>External Power Supply</b>                   | Range: 18-30 VDC<br>including ripple;<br>Current consumption:<br>160 mA maximum<br>including load current                         | Range: 18-30 VDC<br>including ripple;<br>Current consumption:<br>125 mA maximum                                                   | Range: 18-30 VDC<br>including ripple;<br>Current consumption:<br>125 mA maximum                                                   |
| <b>Resolution</b>                              | 4 $\mu A$ = 8 counts                                                                                                              | 2.5 mV = 8 counts                                                                                                                 | 5 mV = 16 counts                                                                                                                  |
| <b>Update Rate</b>                             | 0.3 ms maximum                                                                                                                    | 0.3 ms maximum                                                                                                                    | 0.3 ms maximum                                                                                                                    |
| <b>Accuracy at 25°C</b>                        | $\pm 0.3\%$ typical of full scale,<br>$\pm 0.5\%$ maximum of full scale                                                           | $\pm 0.3\%$ typical of full scale,<br>$\pm 0.5\%$ maximum of full scale                                                           | $\pm 0.3\%$ typical of full scale,<br>$\pm 0.5\%$ maximum of full scale                                                           |
| <b>5V Backplane Current Consumption (mA)</b>   | 50 maximum                                                                                                                        | 50 maximum                                                                                                                        | 50 maximum                                                                                                                        |
| <b>3.3V Backplane Current Consumption (mA)</b> | N/A                                                                                                                               | N/A                                                                                                                               | N/A                                                                                                                               |
| <b>LED Indicators</b>                          | FLD PWR LED indicates<br>field power is present.<br>OK LED indicates backplane<br>power is present.                               | FLD PWR LED indicates<br>field power is present.<br>OK LED indicates backplane<br>power is present.                               | FLD PWR LED indicates<br>field power is present.<br>OK LED indicates backplane<br>power is present.                               |
| <b>Dimensions (W x H x D)</b>                  | 110 mm (4.3 in) x 66.8 mm (2.63 in) x<br>50 mm (1.956 in), not including the<br>height of the carrier or the<br>mating connectors | 110 mm (4.3 in) x 66.8 mm (2.63 in) x<br>50 mm (1.956 in), not including the<br>height of the carrier or the<br>mating connectors | 110 mm (4.3 in) x 66.8 mm (2.63 in) x<br>50 mm (1.956 in), not including the<br>height of the carrier or the<br>mating connectors |

## Analog Output Modules



Analog output modules provide voltage or current signals to analog output devices. Modules require a carrier base (IC200CHSxxx).

|                                         | IC200ALG325                                                                                                              | IC200ALG326                                                                                                                     | IC200ALG327                                                                                                              | IC200ALG328                                                                                                                                         | IC200ALG331                                                                                                              |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Product Name                            | VersaMax Analog Output Module, 13 Bit $\pm 10$ VDC or 0 to 10 VDC Voltage, 8 Channel                                     | VersaMax Analog Output Module, 13 Bit Current, 8 Channel                                                                        | VersaMax Analog Output Module, 13 Bit $\pm 10$ VDC or 0 to 10 VDC Voltage, 12 Channel                                    | VersaMax Analog Output Module, 13 Bit, 0 - 20 mA, 4-20 mA Current, 12 Channel                                                                       | VersaMax Analog Output Module, 14 Bit Voltage/Current 1500 VAC Isolation, 4 Channel                                      |
| Lifecycle Status                        | Active                                                                                                                   | Active                                                                                                                          | Active                                                                                                                   | Active                                                                                                                                              | Active                                                                                                                   |
| Output Range                            | $\pm 10$ VDC or 0 to 10 VDC                                                                                              | 4 to 20 mA (default)<br>0 to 20 mA (configured with jumper)                                                                     | $\pm 10$ VDC or 0 to 10 VDC                                                                                              | 4 to 20 mA (default)<br>0 to 20 mA (configured with jumper)                                                                                         | $\pm 10$ VDC, 4-20 mA                                                                                                    |
| Number of Channels                      | 8                                                                                                                        | 8                                                                                                                               | 12                                                                                                                       | 12 single ended, one group                                                                                                                          | 4                                                                                                                        |
| External Power Supply                   | Range: 18-30 VDC including ripple;<br>Current consumption: 102 mA maximum                                                | Range: 18-30 VDC including ripple;<br>2A inrush maximum, 100 mA maximum (no load), 185 mA maximum (all 8 outputs at full scale) | Range: 18-30 VDC including ripple;<br>Current consumption: 112 mA maximum                                                | Range: 18-30 VDC including ripple;<br>Current consumption: 2A inrush maximum 100 mA maximum (no load) 270 mA maximum (all 12 outputs at full scale) | Range: 19.5-30 VDC including ripple;<br>Current consumption: 100 mA maximum plus load currents                           |
| Resolution                              | 1.25 mV = 4 counts                                                                                                       | 4-20 mA: 5 counts = 2.5 $\mu$ A (~12.7 bits)<br>0-20 mA: 4 counts = 2.5 $\mu$ A (13 bits)                                       | 1.25 mV = 4 counts                                                                                                       | 4-20 mA: 5 counts = 2.5 $\mu$ A (~12.7 bits)<br>0-20 mA: 4 counts = 2.5 $\mu$ A (13 bits)                                                           | Current mode: 381 nA<br>nominal Voltage mode: 381 $\mu$ V nominal                                                        |
| Update Rate                             | 15.0 ms maximum                                                                                                          | 15.0 ms maximum                                                                                                                 | 10.0 ms maximum                                                                                                          | 15 ms maximum                                                                                                                                       | 7 ms maximum                                                                                                             |
| Accuracy at 25°C                        | $\pm 0.3\%$ typical of full scale,<br>$\pm 0.5\%$ maximum of full scale                                                  | $\pm 0.3\%$ of full scale (typical),<br>$\pm 0.5\%$ of full scale (max.)<br>$\pm 1\%$ of full scale (max.)                      | $\pm 0.3\%$ typical of full scale,<br>$\pm 0.5\%$ maximum of full scale                                                  | +/- 0.3% of full scale (typical),<br>+/- 0.5% of full scale (max.)<br>+/- 1% of full scale (max.)                                                   | $\pm 0.1\%$ maximum of full scale                                                                                        |
| 5V Backplane Current Consumption (mA)   | 50 maximum                                                                                                               | 50 maximum                                                                                                                      | 50 maximum                                                                                                               | 50 maximum                                                                                                                                          | 10 maximum                                                                                                               |
| 3.3V Backplane Current Consumption (mA) | N/A                                                                                                                      | N/A                                                                                                                             | N/A                                                                                                                      | N/A                                                                                                                                                 | 115 maximum                                                                                                              |
| LED Indicators                          | FLD PWR LED indicates field power is present.<br>OK LED indicates backplane power is present.                            | FLD PWR LED indicates field power is present.<br>OK LED indicates backplane power is present.                                   | FLD PWR LED indicates field power is present.<br>OK LED indicates backplane power is present.                            | FLD PWR LED indicates field power is present.<br>OK LED indicates backplane power is present.                                                       | FLD PWR LED indicates the presence of both logic power and user power.<br>OK LED indicates module status.                |
| Dimensions (W x H x D)                  | 110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors | 110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors        | 110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors | 110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors                            | 110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors |

### Analog Mixed Modules



Analog mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

|                               | IC200ALG430                                                                                                                       | IC200ALG431                                                                                                                       | IC200ALG432                                                                                                                       |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Name</b>           | VersaMax Analog Mixed Module,<br>12 Bit Input Current 4 Channel/Output<br>Current 2 Channel                                       | VersaMax Analog Mixed Module,<br>12 Bit 0-10V Input 4 Channel/Output<br>0-10V 2 Channel                                           | VersaMax Analog Mixed Module,<br>12 Bit $\pm 10V$ Input 4 Channel/Output<br>$\pm 10V$ 2 Channel                                   |
| <b>Lifecycle Status</b>       | Active                                                                                                                            | Active                                                                                                                            | Active                                                                                                                            |
| <b>Input Range</b>            | 4-20 mA                                                                                                                           | 0-10 VDC                                                                                                                          | -10 to +10 VDC                                                                                                                    |
| <b>Output Range</b>           | 4-20 mA                                                                                                                           | 0-10 VDC                                                                                                                          | -10 to +10 VDC                                                                                                                    |
| <b>External Power Supply</b>  | Range: 18-30 VDC including ripple;<br>Current consumption: 125 mA maximum                                                         | Range: 18-30 VDC including ripple;<br>Current consumption: 125 mA maximum                                                         | Range: 18-30 VDC including ripple;<br>Current consumption: 125 mA maximum                                                         |
| <b>Resolution</b>             | 4 $\mu A$ = 8 counts                                                                                                              | 2.5 mV = 8 counts                                                                                                                 | Input: 2.5 mV = 8 counts,<br>Output: 5 mV = 16 counts                                                                             |
| <b>Update Rate</b>            | 0.3 ms maximum                                                                                                                    | 0.3 ms maximum                                                                                                                    | 0.3 ms maximum                                                                                                                    |
| <b>Accuracy at 25°C</b>       | $\pm 0.3\%$ typical of full scale,<br>$\pm 0.5\%$ maximum of full scale                                                           | $\pm 0.3\%$ typical of full scale,<br>$\pm 0.5\%$ maximum of full scale                                                           | $\pm 0.3\%$ typical of full scale,<br>$\pm 0.5\%$ maximum of full scale                                                           |
| <b>Input Impedance</b>        | 200 Ohms maximum                                                                                                                  | 120 kOhms minimum                                                                                                                 | 125 kOhms minimum                                                                                                                 |
| <b>Input Filter Response</b>  | 5.0 ms                                                                                                                            | 5.0 ms                                                                                                                            | 5.0 ms                                                                                                                            |
| <b>LED Indicators</b>         | FLD PWR LED indicates field power<br>is present. OK LED indicates backplane<br>power is present.                                  | FLD PWR LED indicates field power<br>is present. OK LED indicates backplane<br>power is present.                                  | FLD PWR LED indicates field power is<br>present. OK LED indicates backplane<br>power is present.                                  |
| <b>Dimensions (W x H x D)</b> | 110 mm (4.3 in) x 66.8 mm (2.63 in) x<br>50 mm (1.956 in), not including the<br>height of the carrier or the<br>mating connectors | 110 mm (4.3 in) x 66.8 mm (2.63 in) x<br>50 mm (1.956 in), not including the<br>height of the carrier or the<br>mating connectors | 110 mm (4.3 in) x 66.8 mm (2.63 in) x<br>50 mm (1.956 in), not including the<br>height of the carrier or the<br>mating connectors |