# FLEXEDGE® High Speed Rate Counter Module

**RL RED LION®**

## ◢ FLEXEDGE® Intelligent Edge Automation Platform

The High Speed Rate Counter Module features three counters designed for use with the DA70 controllers. Counting modes include quadrature/direction encoders, count events on one input, sum events on two inputs, count with direction, count SSR output activations, etc. This module is the ideal choice to monitor quadrature/direction encoders, count events, measure pulse width and measure rates.

- Adds three counters to the DA70 products
- Four count inputs, four user inputs, four setpoint outputs, and four digital outputs
- Offers complete isolation; inputs, outputs, power, and communication
- Dual channel counter inputs configurable for count, rate, or quadrature counting modes
- Outputs are sinking with max of 1 A per channel

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## Ordering Guide

### MAIN UNIT

| PART NUMBER | DESCRIPTION |
| --- | --- |
| DAM00I02C0000000 | DA Series I/O Module High-Speed Rate Counter |

# Specifications

## Power Requirements
Power is supplied by the DA host controller.
   **Max Power:** 2.0 W

## LEDs
One LED indicator for each I/O point and a status LED.

## Memory
Non-volatile memory retains all programmable parameters. The Controller also stores the parameters in order to reprogram any modules that need updates.

## Counter Inputs
2 dual channel inputs, individual screw terminals for channel-to-channel isolation and independent Sink/Source hardware configuration
Maximum input voltage: 30 VDC, reverse polarity protected
Guaranteed ON voltage: 2.5 V
Guaranteed OFF voltage: 1.5 V
TTL compatible
Current draw: 10.5 mA @ 30 VDC, 4.5 mA @ 2.5 VDC, nominal spec: 8 mA
Range: -2,147,483,648 to 2,147,483,647
Maximum Count Rate Modes: Count X1, Count X1 with Direction, Dual Input X1 Add/Add, Dual Input X1 Add/Subtract, Quad X1, Quad X2, Quad X4, Count X2, Count X2 with Direction, Pulse Width Fall/Fall, Pulse Width Fall/Rise, Pulse Width Rise/Fall, Pulse Width Rise/Rise
Software debounce filtering modes: None or Debounce. Debounce limits input frequency to 50 Hz and input pulse widths to 10 msec min.
Input isolation: 500 Vrms

## Rate Inputs
Range: 0 to 999,999
Maximum Frequency: 500 KHz
Minimum Frequency: 0.001 Hz
Display Update Time: 0.1 to 999.9 seconds
Accuracy: ±0.01%

## Digital Output
8 solid state N-channel open drain MOSFETs
Load Type: General purpose, resistive and Pilot Duty
All outputs share the same common
   Rating: 1 ADC max
   $V_{DS}$ ON: < 0.2 V @ 1 A
   $V_{DS}$ MAX: 30 VDC
   Offstate leakage current: 0.5 µA max

## Signal Inputs (Input A And Input B)
Selectable inputs accept pulses from a variety of sources including switch contacts, TTL outputs, and standard RLC sensors. Inputs accept current sinking or current sourcing outputs and provide software selectable input filtering for low frequency signals or switch contact debounce.

## User Inputs
Four programmable user inputs
Max. Continuous Input: 30 VDC
Channel-to-channel isolation
Response Time: 12 msec. max.
Independent Sink/Source hardware configuration
   Guaranteed ON voltage: 2.5 V
   Guaranteed OFF voltage: 1.5 V
   TTL compatible
   Current draw: 10.5 mA @ 30 VDC, 4.5 mA @ 2.5 VDC, nominal spec: 8 mA

## Communications
Provided by the DA70 Controller

## Environmental
Operating Temperature Range: -40 to 75 °C $T_{AMB}$
Storage Temperature Range: -40 to 80 °C $T_{AMB}$
Operating and Storage Humidity: 0 to 95% max. RH non-condensing
Vibration to IEC 60068-2-6: Operational 5-500 Hz, 2 g
Shock to IEC 60068-2-27: Operational 15 g
Altitude: Up to 2000 meters
Installation Category II, Pollution Degree 2 as defined in IEC/EN 60664-1.

## Certification & Compliance
**CE Approved**
   EN 61326-1 Immunity to Industrial Locations
   Emission CISPR 11 Class A
   IEC/EN 61010-1
   RoHS Compliant
**ATEX Approved**
   Ⓔ II 3 G Ex ec IIC T4 Gc
   DEMKO 20 ATEX 2268X
**IECEx Approved**
   IECEx UL 20.0007X
**UKEX Approved**
   UL22UKEX2576X
**UL Hazardous**: File # E317425
Rugged IP30 enclosure

## Connections
Wire Strip Length: 0.3" (7.5 mm)
Wire Gauge Capacity: 14 to 24 AWG (2.08 to 0.20 mm$^2$) copper wire only

## Construction
Plastic enclosure with IP30 rating.
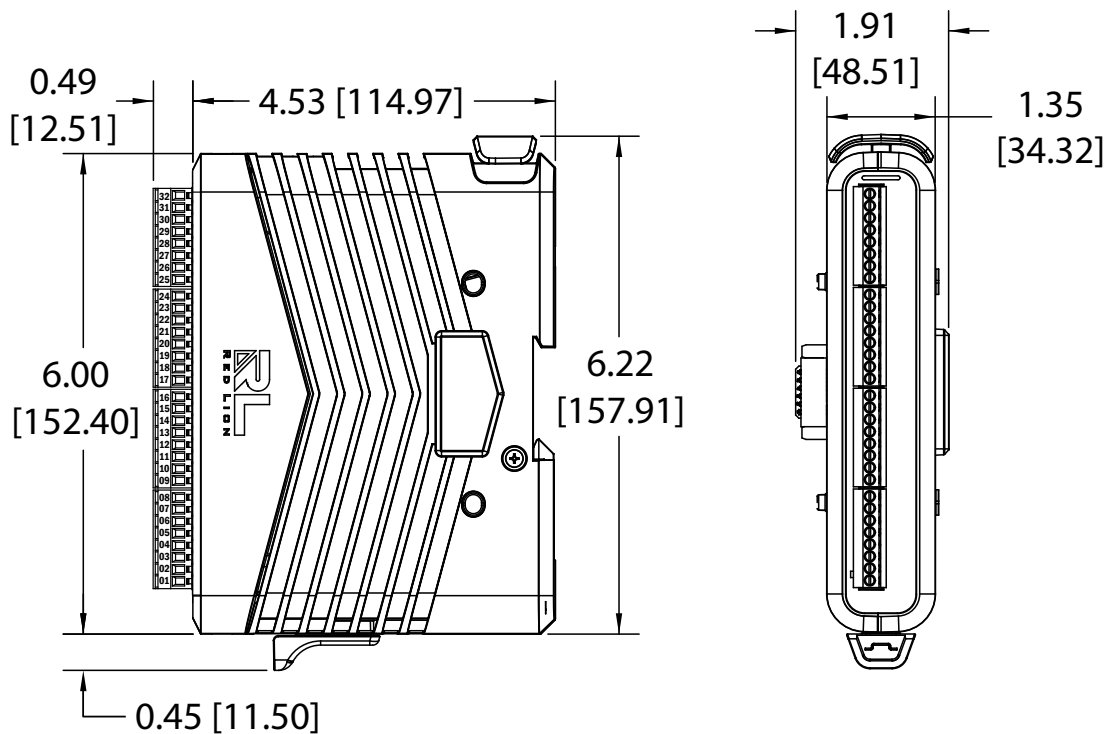Weight: 10.2 oz (317.25 g)

## Mounting
DIN Rail: Attaches to standard "T" profile DIN rail according to EN50022 - 35 x 7.5 and 35 x 15

## Warranty
3 years on design and manufacturing defects.

Specifications are subject to change.
Visit www.redlion.net for more information.

## Dimensions  In inches [mm]

Red Lion is focused on being THE Industrial Data Company™. We empower industrial organizations around the world to unlock the value of data by developing and manufacturing innovative products and solutions to access, connect and visualize their information. Red Lion's global manufacturing and support facilities serve customers in major industry segments with solutions for cloud connectivity, edge intelligence, industrial Ethernet switches, panel meters and operator panels. Red Lion makes it easy to gain real-time data visibility that drives productivity. Red Lion is part of Spectris plc, the experts in providing insight through precision measurement.

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