

# EAT•N

# Electrical

Durant® Fusion™ Series

Product Focus

Next Generation High  
Speed Machine Controls



# Get **MORE** for **LESS**

*Fusion - 1b: a merging of diverse elements into a unified whole.*

Merriam-Webster®



## The Fusion™ Series

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# Fusion-A Synthesis of High-Speed Precision and Expanded I/O and Logic Capabilities

Introducing the Durant® Fusion® - a next generation count control that addresses high-speed, precision needs with expanded I/O and logic capability. Just right for a wide-range of small to medium applications, the Fusion is much more capable and flexible than traditional count control products, yet less complex than PLC products.

By integrating multiple discrete control components into one Fusion, customers can reduce overall control costs, installation and commissioning time. This is the new standard for high-speed counting, operator interface, message display, logic engine, extended I/O, and communications... all housed in a Type 4X panel mount enclosure.

## Machinery OEM's

Designed specifically for the rugged needs of the machinery OEM industry - metalworking, textile, pumps, paper, food products, conveyors, and packaging - the Fusion is suited for most industrial environments (including wet), and is available in wide-range ac or dc power models.

### The Fusion is ideal for the following:

- Cut to Length
- Volumetric Dispensing
- Coil Winding
- Batch Control
- Slitting Control
- Metal Forming

## Ladder Logic Like No Other

Easily programmable and customizable, the Fusion contains a flexible logic engine capable of processing up to 100 rungs of ladder logic, with up to six contacts and one coil per rung. Other ladder logic features include eight ladder counters, timers, analog comparators, and a real time clock with day and date. Intuitive ladder editing, programmability, front panel function keys, and 26 I/O points allow the Fusion to replace external timers, programmable relays, and other logic devices.

## Ladder Logic, A Number's Game

In addition to the ten control inputs and three high-speed count inputs, the ladder contacts also include:

- One power up signal
- Eleven front panel keys
- Eight analog comparators for use with the four analog inputs
- Eight real time clock comparators
- Seven digital and two analog outputs
- Sixteen memory bits
- Sixteen display and print messages
- Eight counters
- Eight timers

## The ladder coil types include:

- Seven digital and two analog outputs
- Sixteen memory bits
- Sixteen display and print messages
- Eight counters
- Eight timers
- Seven high-speed counter inputs
- Nine high-speed counter output unlatches and latches

## How Fast? Real Fast.

The count module is capable of counting at a sustained speed of 6 kHz in any one of its thirteen count modes. The count functions run independently from the ladder execution, making it ideal for precision applications.

Programmable count control functions include:

- Input pulse scaling
- Five presets and prewarn
- Batch control
- Totalization
- Rate with alarms
- 10 parameter sets with predefined recipes

## Simplicity When it Counts

When compared to competitor's products, Fusion is preferred based on precise and repeatable output response, simplicity of ladder tools, and programming. Additionally, it features a much more versatile operator interface.

The Fusion was designed for users to customize their displays and user interface to suit unique applications. Easy-to-tailor, status information uses customer terminology and allows select users access to select parameters. Both soft and function keys allow quick access to parameters and setpoints.

The operator interface allows users to scroll through the defined run messages as well as ladder-triggered messages. The expanded front panel has an eighteen-key tactile keypad allowing users to quickly access and change important machine or process parameters. Programming can be performed via the front panel or with Windows®-based configuration software.

For more information on the Fusion Series, contact:

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## Fusion Series Specifications

- Type 4X front panel with gasket
- High contrast 128x64 pixel graphic, backlit LCD display
- 18 Key tactile keypad
- 26 I/O
  - 10 dc contact inputs
  - 3 count inputs
  - 4 analog inputs
  - 5 5A relays
  - 2 transistors
  - 2 isolated analog outputs
- RS485 and RS232 serial ports (modbus and printer interface)
- 6 kHz High-speed counter with 6 digit main counter, five presets, prewarn, 8 digit totalizer, 6 digit batch counter, and 5 digit ratemeter
- Count-for count evaluation with short, repeatable output latency
- Parameter sets (recipes)
- Programmable run messages and screens
- Clock with day/date
- Non-volatile memory
- No batteries needed
- DIN Panel cutout: 68mm x 138mm
- 2.82" depth behind panel
- Input power: 85-265 Vac 50/60 Hz or 10-30 Vdc models
- Output power: 12 Vdc @75 mA, 24 Vdc @ 100mA
- Depluggable moving cage screw terminals
- Operating temperature: 0 to 50°C
- UL, cUL, and CE marked

## Fusion Series Features and Benefits

Feature	Customer Benefit
High-speed count functions; including scaling, main counter, five presets, prewarn, totalizer, batch and rate	"Canned" count functions offer flexibility and ease of setup in the desired units of measure.
High-speed counting independent of ladder scan time	Precise and repeatable output response for high performance applications.
Flexible display with selectable character sizes (large, medium, small), run screens and ladder triggered messages.	Minimizes confusion and operator errors as information can be tailored to what they need and in their language. Maintenance/management data can be separated. Different character sizes allow optimization of information displayed. Machine status information can be displayed allowing operators to take action.
Simple front panel layout and keypad. Four soft keys & six function keys can be used as inputs.	Ease of use for operator. Numeric keypad allows for ease of preset and machine parameter entry. Function keys and soft keys allow easy and quick access to information and/or parameters needed by the operator and don't require using additional inputs. Eliminates cost associated with external pushbuttons and inputs.
Parameter sets	Allows for predefined recipes/jobs to be preloaded for the operator. Simplifies operator interaction and minimizes errors.
Programmable relay logic	Well understood programming method that allows flexibility in control functionality. Easy to tailor the control to various applications.
26 I/O (digital & analog)	Provides application flexibility. Analog inputs allow monitoring key process parameters. Analog outputs allow interfacing to drives and other control products.
Integrated solution	Reduced overall control costs, installation and commissioning. More flexible and capable than traditional count/control solutions but less complex than many PLC solutions.
Windows® and front panel programming	Ease of programming and configuration control.
RS-232 and RS-485 serial communication ports	Allow for direct connection to PC for programming, connection to Modbus® networks, interface to serial printer.
Robust type 4X package. DIN cutout and short depth 2.82 Inches (71.6 mm).	Suited for wet applications. Same cutout as the President Series®, easing the migration. Short depth minimizes the cost and size of the machine panel or control enclosure.
Input power: 85 – 265Vac 50/60 Hz or 10 – 30Vdc models	Greatly reduces models required for different control voltages.
Output power: 12Vdc @75 mA, 24Vdc @ 100 mA	Eliminates the need for an external power supply for encoders, analog transducers, etc.
Depluggable screw terminals	Allows for ease of wiring and removal of control. Terminals are different sizes to error-proof installation.
Non-volatile memory and capacitor backed real time clock	Don't have to worry about a battery failing down the road.
Real time clock	Allows for control functions to be performed on day/time and allows for date/time stamping on printouts.
UL, cUL and CE marked	Ease of meeting machine agency requirements and robust EMC performance.