

EMICC

ELECTRIC MACHINERY INDUSTRIAL CONTROLS CORPORATION

CONTROL & MONITORING DEVICES

REGUTRON 3

Digital Control Device



FOR EM AMPLI-SPEED MAGNETIC DRIVES & OTHER EDDY-CURRENT CLUTCHES

The Regutron 3 DCRS digital speed control is a cost-effective way to upgrade existing analog eddy-current clutch controllers.

This easy-to-operate controller provides stand-alone control of a single magnetic drive or accurate coordination of more complex multi-drive systems such as series pump applications.

MAXIMIZE YOUR CONTROL PANEL

The New controller consists of a ¼ DIN size control module with keypad and digital display together with a power panel. The control module may be installed on the door of existing equipment or mounted on the power panel. The power panel is a drop-in replacement for existing TCRS panels (ASC) on Regutron II controls. It is supplied with a terminal block that matches the existing wire harness to minimize down time while upgrading existing speed, level, or pressure controllers.

The Regutron 3 brings advanced intelligence to touch speed control jobs with a 16-bit microprocessor and sophisticated internal software. It provides closed-loop speed regulation with zero accumulative error (follower mode). The unit's 10 multi-second loop update gives the ability to optimize dynamic response.

Customer Benefits

- Up-to-date device
- Very easy upgrading of your existing installations
- Easy to operate
- Simple and flexible programming



REGUTRON 3

FLEXIBILITY

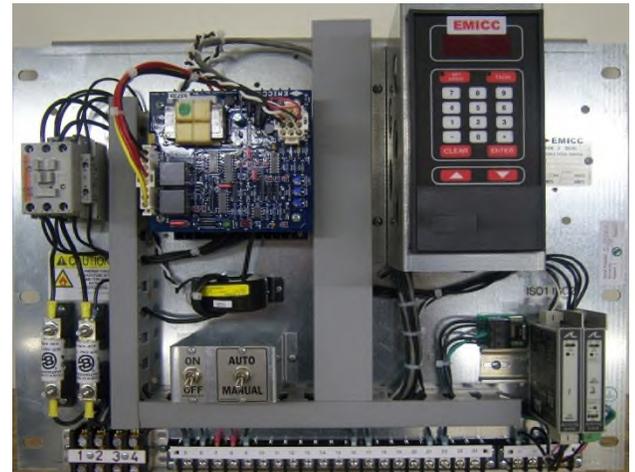
Regutron 3 has two switch selectable modes of operation. Each mode has four programmable formats and two switch selected set points for maximum control flexibility.

PROGRAMMING BY KEYPAD

The analog adjustment potentiometers have been replaced with a sealed keypad for very simple, flexible programming. Dedicated keys are provided for SET SPEED and TACH. Set points can be entered numerically, with SCROLL keys, through an analog input, or via a serial communications port. Programming functions and status LED's are behind a separate door.

FACTORY AUTOMATION LINK

The Regutron 3 combines a serial RS-422 communications port with direct-access programming to form a powerful link in your factory automation scheme. Addressable, two-way communications make Regutron 3 the smart choice for distributed control, providing interrogate, down-load, and command functions. Direct access to control parameters simplifies setup and monitoring.



ANALOG I/O

The Regutron 3 is supplied with analog input and output capabilities. This provides for automatic control from an LLC, PLC, distributed controller or similar system and remote display of a selected parameter.



Industrial Plant

REGUTRON 3

APPLICATION

The Regutron 3 controller is designed for stand-alone control of a single magnetic drive or for coordination of multi-drive systems such as series pumps,

A 16-bit microprocessor and sophisticated internal software provide digital control for a wide range of drive applications. The control provides closed-loop speed regulation with zero accumulative error (follower mode).

The Regutron 3 is supplied with a three wire Analog I/O card. The Analog-In feature lets the input signal be assigned to 1 of 7 input variables. The Analog-Output may be assigned to any one of the measured variables or control parameters. Both input and output signals can be jumper selected as 4-20 mA or 0-10 VDC. Four wire, isolated I/O is achieved by the use of universal isolation modules.

Control is Quadrant 1, best suited for slowly varying or steady leads.

Freewheeling Diode in power stage for output bridge protection in the event of a power-loss.

Retrofit of existing analog units

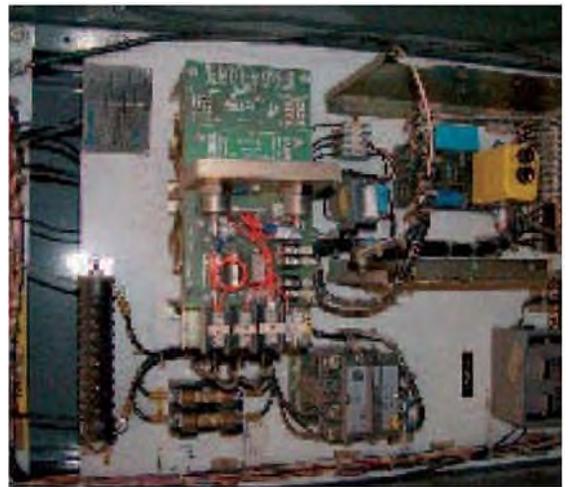
Remote diagnostic service



Water treatment station

CONTROL INPUTS

- Feedback pulse train
- Reference pulse train
- Auxiliary pulse train (offset or trim output)
- Run-Ramp Stop-Fast Stop-Jog
- Closed / Open loop – Primary / Secondary mode
- Primary set point select
- Secondary set point select
- Set point hold – Keypad lockout
- Local / Computer



EATON Dynamactic



REGUTRON 3

SPECIFICATIONS

Accuracy:

0.01% set speed – master format
Zero accumulative error – follower format

Response:

10 millisecond control loop update

Tuning:

Separately adjustable Gain (P), Reset (I) and Rate (D) parameters for stability and response.

Scaling Formats:

Direct – Direct set of drive output
Master – Absolute set point entry
Follower – Ratioed set point calculation
Offset – Ratioed set point and offset

Set Points (Six Total):

4 master / follower
1 direct
1 jog

Accel / Decel Timing:

0 to 600.0 seconds
Ramp disable inhibits ramp
Ramp stop or fast stop selectable

Engineering Units:

Display and set points separately scalable
Simple setup of input pulses per revolution and Engineering units
Decimal point selectable for both display or set point

Sensor Types:

Magnetic pickup (2-wire variable reluctance)
Encoders or proximity switches (3-wire, open Collector with or without pull-up resistor)
+12 VDC (50 mA) available to power sensors or accessories



Status Outputs:

Open collector driven (50 VDC max., 200 mA
Continuous, 500 mA peak)
Zero speed
Low alarm
High alarm
Ramped error (Deviation alarm 1)
Scaled error (Deviation alarm 2)
Polarity (DCRS-30 thru -60)
Five LED's behind front door

Serial Interface:

RS-422 – 300 to 9600 baud
Full parameter access and control

Power Requirements:

DCRS-8 120 to 480VAC
DCRS-30 to -60 240 VAC (external isolation transformer required) $\pm 10\%$, 50/60 Hz

Drive Output:

Phase fired – single quadrant
DCRS-8 0-90V
(120 VAC input)
DCRS30 to -60 0-190V
(240 VAC input)

Analog I/O:

Standard 3-Wire input / Output – 0-10 VDC or
4-20 mA
12 bit resolution – 11 bit accuracy
Optional universal I/O isolators with multiple
voltage and current settings and dual outputs



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