Single-Turn Resolver Decoder Module for TI 505 Series I/O

Model M8350

Features

Easy Integration into New and Existing Systems
- Flexible, cost - effective, modular construction
- Fully isolated I/O
- Full scale electronic offset for easy machine setup
- Programmable from keypad or backplane

Self-Monitoring Diagnostics with Fault Output
- Broken resolver cable detection
- Hardware-based microprocessor monitoring
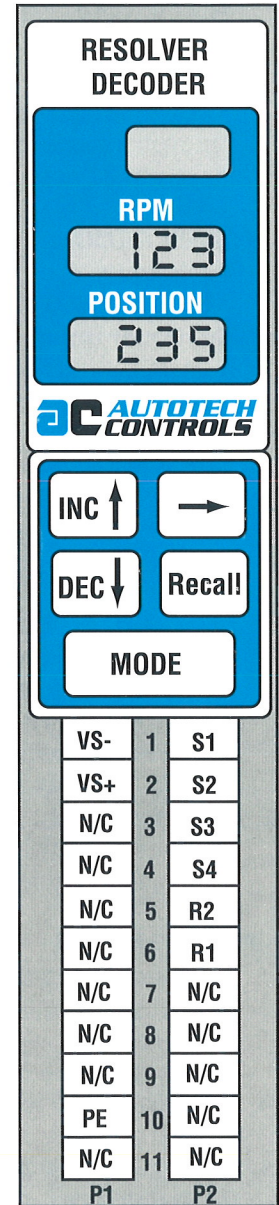
Simultaneous Position and RPM Display
- Simultaneous display of RPM & Position
- Position and outputs statue available to backplane every 700 µs
- Programmable motion detector (under/over speedswitch)

Most versatile Resolver Decoder Module
- Fully absolute position; no loss of position under any condition
- Programmable resolution; 20–4096 counts per turn

Multiple Programming Options
- Through backplane
- Integral keypad and display

RESOLVER DECODER

RPM
123
POSITION
235

ac AUTOTECH CONTROLS

INC ↑ | →
DEC ↓ | Recall!
MODE

VS-	1	S1
VS+	2	S2
N/C	3	S3
N/C	4	S4
N/C	5	R2
N/C	6	R1
N/C	7	N/C
N/C	8	N/C
N/C	9	N/C
PE	10	N/C
N/C	11	N/C
P1		P2

Applications

Automotive / Metal Forming
- Press automation
- Die protection
- Cam replacement

Paper / Film Converting
- Registration control
- Web control
- Corrugated processing

Packaging
- Glue gun control
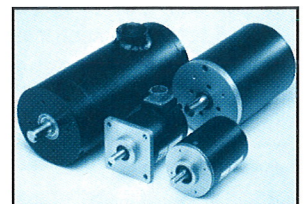- Labeling
- Form, fill and seal

Bottling / Canning
- Filling
- Packaging
- Can making
- Can/Bottle decorating

Machine Control
- Any machine requiring absolute position information in P.L.C. program for machine's control or display
- Can be used to replace optical encoders and high speed counters

Autotech Resolvers

Specifications

A complete functional Decoder consists of a Cradle (SAC-TO505-010), a Decoder Module (ASY-M8350-010), and a Filler Module (ASY-M8350-FIL). If fault and/or motion outputs need to be directly wired to field devices, an output module (such as ASY-M8250-NOUT or ASY-M8250-POUT) must be used in place of the filler module. Consult Autotech for specifications on output module.

DECODER MODULE SPECIFICATIONS
Part number: ASY-M8350-010

CARD LOCATION:
Uses two slots (any location) in TI 505 Series I/O rack

PLC COMMUNICATION
Through input and output registers; allocate 32 input and 32 output registers

POWER REQUIREMENTS:
Backplane:
5 VDC @ 650 mA
Customer (Input Power):
24 VDC $\pm$ 15% @ 100 mA

ENVIRONMENTAL CONDITIONS
Operating temperature:
10° F to 130° F (–23° F to 55° F)
Relative humidity:
5 to 95% non-condensing

RESOLVER INTERFACE
Position transducer:
Resolver; Autotech Series RL100, E7R, E8R, RL101, RL500 or equivalent
Cable length between resolver and M8350:
2500 feet max, shielded
Resolver cable:
Overall foil shielded, twisted pair, such as Autotech's cable (CBL-10T22-xxxx)

PROGRAMMING
All features programmable from keypad, or through backplane
Scale factor:
Programmable from 19 to 4095 (resolution 20 to 4096 counts/turn)
Offset:
Programmable from 0 to scale factor value
Fault detector:
TRUE (active) on power up.
FALSE if broken resolver wire or internal fault is detected.
Motion detector:
Low and high motion limits are programmable from 0 to 1999 RPM.
Motion detector is TRUE when the machine's RPM is within the programmed limits. Motion detector's status is available on the backplane.

RESPONSE TIMES
Tach update time:
15 ms
Position, tach, and output status available to backplane:
Every 700 µs typical

CONTROL INPUTS
Program Enable (PE):
PE must be TRUE for setup programming
Output Enable (OE):
OE must be TRUE for outputs to be enabled (applies only when optional ASY-M8250-NOUT module is used)

Electrical specifications (All Inputs):
Optical isolation:
2500 VAC RMS
Input current :
3mA typical @ 24VDC
Logic levels:
TRUE: 21 to 27 VDC (V+ relative to V-) (not to exceed)
FALSE: < 1VDC

Figure 1

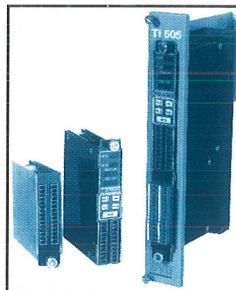*Figure 1 shows the M8350 Resolver Decoder completely assembled.*

Figure 2

Figure 2 shows components of the assembly (from right to left): Cradle (SAC-TO505-010), a Decoder Module (ASY-M8350-010), and a Filler Module (ASY-M8250-FIL). Autotech Resolver (required for the system) not shown in Figure 1 or Figure 2.