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KONTROL TEKNOLOJİLERİ A.Ş.

ECT-MG8000

TRANSMISSION CONTROL UNIT



SPECIFICATIONS

- Model-based design.
- J1939 compliant CAN-Bus communication.
- Locomotives, Main Battle Tanks and Heavy Duty Vehicle Engines.
- ISO 26262 ASIL-B compliant design.
- Calibration and Diagnosis Function
- SAE JA1002 Software Reliability Program Standard compliant design.
- MIL-HDBK-217F Military Handbook: Reliability Prediction Of Electronic Equipment compliant design.
- SAE J2640 General Automotive Embedded Software Design Requirements compliant design.



APPLICATION

- Steering, Braking, Pivot Turn Control Function for Tracked Vehicle Applications.
- Automatic Gear Selection for Variable Environmental Conditions.
- Transmission Protection Function.
- Quick and Lag-free Response to Torque-Power Demand.
- Adaptive Gear Shift Characterization

Sanayi Mahallesi Teknopark Bulvarı 1C Blok Kat:2 No:1201 Pendik/İstanbul Türkiye

+90 216 504 65 65

ecemtag.com.tr

info@ecemtag.com.tr

- 6 Speed Full Automatic Transmission Control Gear Shift Optimization that meets Performance Expectations
- Application: Locomotives, Main Battle Tanks, Construction Machinery
- Active Liquid Cooling System

HIGHLIGHTS		I/O SUMMARY	
Processor	NXP MPC5554 32-Bit MCU	Actuator & Sensor Supplies	5/12/24 VDC, 16 – 33 VDC
Clock Rate	132 MHz	Input/Output Pins	3 connectors with high pin density, 160 pins
RAM Space	64 KB on-chip static RAM		
Cache Space	32 KB	Communication	3 CAN interfaces
		Serial Communication	2 x RS422/RS485

INPUTS		OUTPUTS	
Digital Inputs	13	Digital Output	4
Pressure Inputs	15	Current Output	10
Temperature Inputs	4	Actuator Output	4
Speed Inputs	7	I/O Safety	All inputs and outputs are overvoltage proof, polarity protected and short circuit proof.
Voltage Input	4		
CAN-Bus	3x ISO / DIS 11898		

INTERNAL FEATURES	
J1939 UDS Supported, XCP/CCP supported	

PHYSICAL			
Dimensions	252 x 289 x 81 mm	Humidity	MIL-STD-810G / 507.6 - Procedure II – Aggravated Cycle (RH 95 % (+60 °C))
Housing Material	Aluminium 6061	Housing Temperature	-32...100 °C (with a cooler system)
Weight	About 5 kg	Shock	MIL-STD-810G / 516.7 (40 g, 11 ms) MIL-STD-810G / 519.7 (100 g, 1,5 ms)
Connectors	MIL-STD-38999 Series III	MIL-STD 461F	Compliant
Vibration	1 g, < 2000 Hz, engine mounting with vibration dampers	MIL-STD 1275E	Compliant
Protection Grade	IP 67	MIL-STD 810G	Compliant

TRANSMISSION APPLICATION	
Supply Voltage	24 VDC, 16 – 33 VDC
Supp. num. Of Clutch/ Brake	8
Control Strategy	Both speed and torque based.
Calibration Tool Support	The Application Program is a Commissioning, Operation, Calibration and Diagnosis Tool. (ATI Vision support is available)