LCS ITB

Integrated Throttle Body and Speed Control or Actuator

APPLICATION

The LCS ITB is a member of Woodward's *Integrated Throttle Body* family. Several throttle body size configurations (between 25 and 50 mm) are integrated with speed control or actuator options for use on gaseous fueled industrial engines between 5 and 100 kW (7 and 134 hp). Applications include power generation, refrigeration units, pumps, irrigation, mobile industrial, and gas trim valves.

The integrated throttle body incorporates the proven Woodward LCS speed control or LCS actuator, which operates the throttle plate. The LCS ITB Speed Control can be programmed via the RS-232 port of a personal computer to a variety of configurations, as follows:

- isochronous speed control
- droop
- auxiliary input
- dual dynamics
- adjustable ramp time
- self-tuning gain
- overspeed/underspeed protection
- remote speed setting
- three speed select
- error relay driver

The LCS Actuator comes in two basic configurations—with or without on-board final drivers. The onboard driver version accepts a 7–32 Vdc, 150–3100 Hz PWM position command signal. The version without drivers brings the actuator coil (4 Ω @ 25 °C, 14 mH @ 500 Hz) leads directly out to the Deutsch connector. The LCS Actuator also has an optional, integral 0–5 Vdc throttle position feedback signal.

DESCRIPTION

The LCS ITB integrated throttle body and speed control or actuator provides a building block approach to total engine management. This modular design consists of a die-cast aluminum throttle body plus a fully programmable integrated digital speed control and bi-directional actuator.

The throttle body incorporates a corrosion-protected, plated steel shaft, plate, and a sealed ball-bearing design for durability and long life. An internal throttle return spring is standard to close the throttle in the event of power failure.

The modular design of the LCS ITB system reduces total engine assembly cost, eliminates external linkages, lowers inventory and part number proliferation. The programmable controller offers security to your configuration.

The LCS ITB speed control is compatible with Woodward's venturi-style mixer and other brands of gas mixers using suitable adapters (see LCS product specification 03225 for speed control details and operating parameters).

- Integrated, bi-directional actuator or OEM-configurable speed control
- Eliminates external linkages
- Reduces total engine assembly costs
- Can be used in turbocharged applications with throttle pressure higher than ambient
- Optional PWM input positioner model with integral position feedback
- Sealed ball-bearing throttle body design
- Full range of bore sizes available: 25, 30, 36, 43, 50 mm
- Tamperproof
- End-of-line programmable speed control

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Quality System Registered to
ISO 9001:1994
(with QS-9000:1998)

Dutch Council for Accreditation

American National Standards Institute–Registrar Accreditation Board

Distributors & Service
Woodward has an international network of distributors and service facilities. For your nearest representative call (1)(800) 835-5182 or see the Worldwide Directory on our web site.

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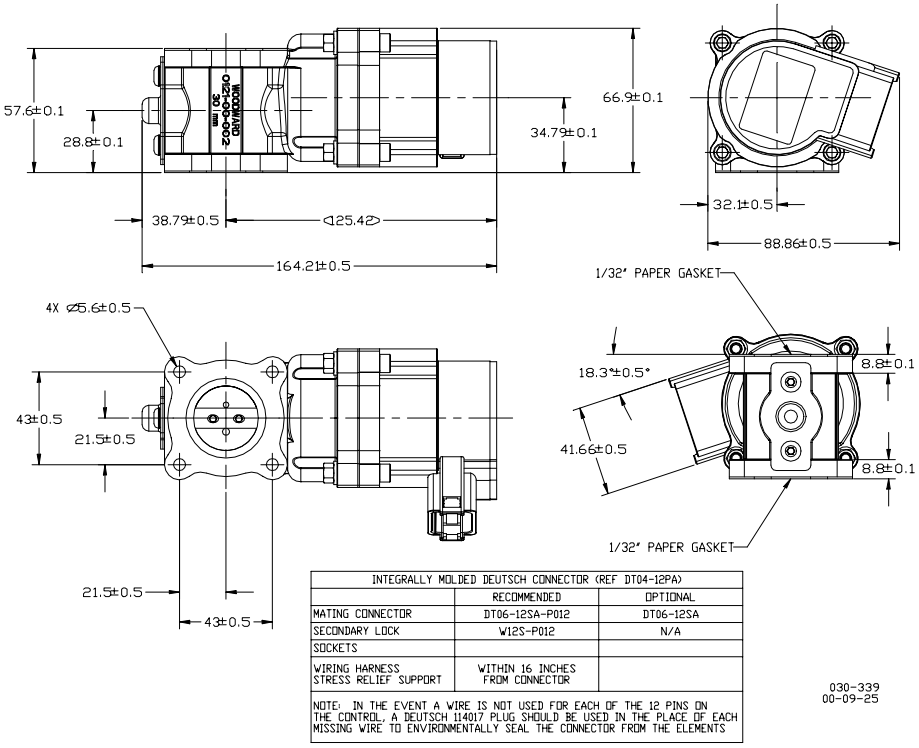

INTEGRALLY MOLDED DEUTSCH CONNECTOR (REF DT04-12PA)		
	RECOMMENDED	OPTIONAL
MATING CONNECTOR	DT06-12SA-P012	DT06-12SA
SECONDARY LOCK	W12S-P012	N/A
SOCKETS		
WIRING HARNESS STRESS RELIEF SUPPORT	WITHIN 16 INCHES FROM CONNECTOR	

NOTE: IN THE EVENT A WIRE IS NOT USED FOR EACH OF THE 12 PINS ON THE CONTROL, A DEUTSCH 114017 PLUG SHOULD BE USED IN THE PLACE OF EACH MISSING WIRE TO ENVIRONMENTALLY SEAL THE CONNECTOR FROM THE ELEMENTS

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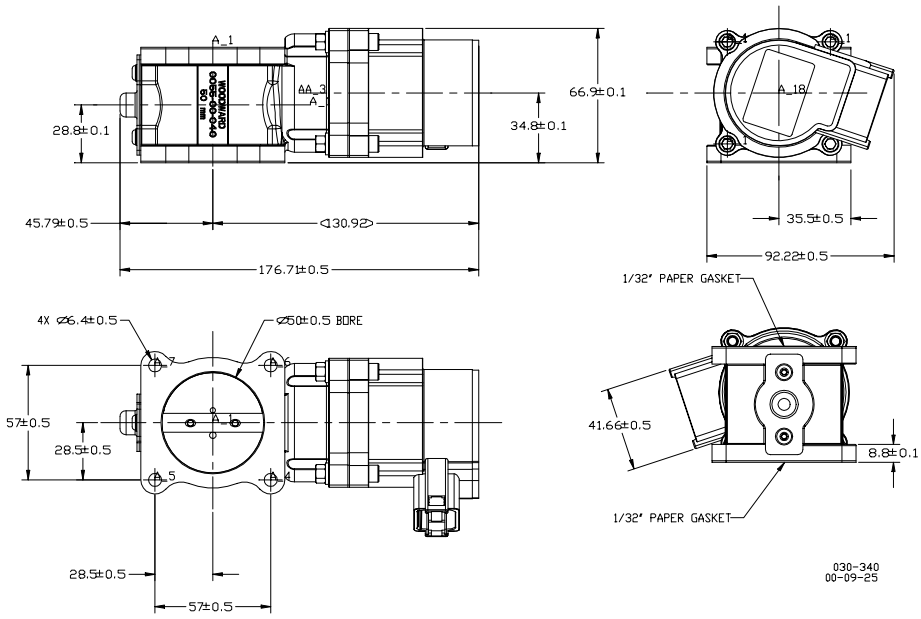
Representative Drawing of 30 mm LCS ITB Control



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Representative Drawing of 50 mm LCS ITB Control

For more information contact: