Controls for Gas Turbines

	Single-Shaft Gas Turbine Controls			
	2301D-GT	**GTC100 w/ PowerSense**	**GTC190A w/ PowerSense**	**GTC190M**
Typical Application	Single fuel, power gen	Dual fuel for power gen, combined heat & power	Industrial gas turbines, single/dual fuel, co-gen, power gen, marine, compressors	Industrial gas turbines, single/dual fuel, co-gen, power gen, marine, compressors
Woodward Part No.	8273-127 (2301D platform)	8262-1001 (AtlasSC™ platform)	8262-1032 (Atlas-II™ platform)	8262-1033 base unit (MicroNet™ Plus platform)
Key Features	EGT, kW, CDP Limiting, Liteoff Detect	Core Fuel Control (speed, EGT, CDP, accel/decel, dual fuel transfer), Start/Stop Seq, kW Limiting, Gen Protection, Load Sharing, Synchronizing, Gen Breaker Control	Core Fuel Control, Speed Derivative Limiting, EGT Deriv Limiting, MW Control, Temp Monitoring, Programmable Logic, Pre-programmed Distributed I/O via Profibus	Core Fuel Control, Speed Derivative Limiting, EGT Deriv Limiting, MW Control, Temp Monitoring, Programmable Logic, plus base unit is expandable with additional I/O & redundant CPUs & power supplies
Certifi-cations	CE, UL, CSA	CE, ATEX, UL, Marine Approved	CE, ATEX, UL	CE, UL
Display	None–Use PC	None–Use PC	None–Use PC	None–Use PC
Input Power	18–40 Vdc	18–32 Vdc	18–32 Vdc	115 Vac/125 Vdc or 220 Vac
Speed Input	1 MPU	2 MPUs/Prox Probes	2 MPUs/Prox Probes + 6 MPUs	4 MPUs/Prox Probes
Load Share Type	Analog	Digital/LON	Digital/LON	Analog (4–20 mA, via EGCP-3)
Analog Inputs	2 configurable	6 with 4 configurable plus gen & bus CTs & PTs	16 plus gen & bus CTs & PTs	12 base (6 dedicated) (24 max)
Thermo-couple In.	None	None	20	20 base (40 max)
Discrete Inputs	8 with 3 configurable	24 with 21 configurable	24 with 20 configurable	48 base (27 dedicated) (96 max)
Analog Outputs	1 configurable	6 configurable plus voltage bias to AVR	8 configurable plus voltage bias to AVR	4 base (2 dedicated) (8 max)
Discrete Outputs	4 with 3 configurable	12 with 10 configurable	12 with 10 configurable	24 base (20 dedicated) (48 max)
Distributed I/O	None	No default allocations	Via Profibus, 40 analog-in, 48 T/C, 16 RTD, 8 analog-out, 160 contact-in, 128 relay driver-out	No default allocations
Actuator Outputs	1 4–20 / 20–200 mA	2 4–20 / 20–160 mA	2 4–20 / 20–160 mA	2 proportional 4–20/20–160 mA (4 max +4 integrating max)
Digital Communi-cations Ports	1 port DDE or Modbus® * via RS-232	3 isolated ports 1 RS-232 service 2 configurable for RS-232/422/485, Modbus RTU & DDE via serial	2 configurable for RS-232/422/485, 2 CAN ports, 1 Profibus DP, 4 Ethernet ports (for TCP/IP, UDP/IP, OPC, EGD, Modbus, CANopen)	1 configurable for RS-232/422/485 base (2 max), 2 CAN ports base (4 max), 2 Ethernet ports (for TCP/IP, UDP, OPC, EGD, Modbus) (4 max)
Prod. Spec.	03236	03319	(not released)	(not released)
Manual	26144	26284	26432	(not released)

*—Modbus is a trademark of Schneider Automation Inc.

	Two-Shaft Gas Turbine Controls			
	GTC200 w/o PowerSense	**GTC200 w/ PowerSense**	**GTC250A**	**GTC250M**
Typical Application	Dual fuel for power gen, compressors, combined heat & power	Dual fuel for power gen, combined heat & power	Aero-derivative gas turbine for power gen, compressors, combined heat & power	Aero-derivative gas turbine for power gen, compressors, combined heat & power
Woodward Part No.	8262-1002 (AtlasSC platform)	8262-1022 (AtlasSC platform)	8262-1031 (Atlas-II platform)	[none assigned] (MicroNet Plus platform)
Key Features	Core Fuel Control, GG & PT Speed Control, Start/Stop Seq	Core Fuel Control, GG & PT Speed Control, kW Limiting, Start/Stop Seq, Gen Protect, Load Sharing, Synchronizing, Gen Breaker Control, 8 T/C for EGT Monitor	Core Fuel Control only, Distributed I/O (no Start/Stop Seq, Protective Monitor), NOx Emission Control, Programmable Logic	Core Fuel Control only, Distributed I/O (no Start/Stop Seq, Protective Monitor), NOx Emission Control, Programmable Logic, plus base unit is expandable with additional I/O & redundant CPUs & power supplies
Certifi-cations	CE, ATEX, UL, Marine Approved	CE, ATEX, UL, Marine Approved	CE, ATEX, UL	CE, UL
Display	None–Use PC	None–Use PC	None–Use PC	None–Use PC
Input Power	18–32 Vdc	18–32 Vdc	18–32 Vdc	115 Vac/125 Vdc or 220 Vac
Speed Input	2 MPUs/Prox Probes + 2 MPUs	2 MPUs/Prox Probes + 2 MPUs	2 MPUs/Prox Probes + 4 MPUs	4 MPUs/Prox Probes
Load Share Type	Analog (4–20 mA, via EGCP-3)	Digital/LON	Analog (4–20 mA, via EGCP-3)	Analog (4–20 mA, via EGCP-3)
Analog Inputs	9 with 7 configurable	9 with 7 configurable plus gen & bus CTs & PTs	31 with 18 configurable	12 base (6 dedicated) (24 max)
RTD Inputs	2	2	1	
Thermo-couple In.	10	10	18	20 base (40 max)
Discrete Inputs	24 with 21 configurable	24 with 21 configurable	24 with 4 configurable	48 base (27 dedicated) (96 max)
Analog Outputs	8 configurable	8 configurable plus voltage bias to AVR	12 with 10 configurable	4 base (2 dedicated) (8 max)
Discrete Outputs	12 with 10 configurable	12 with 10 configurable	12 with 10 configurable	24 base (20 dedicated) (48 max)
Distributed I/O	No default allocations	No default allocations	Via Profibus, 40 analog-in, 48 T/C, 16 RTD, 8 analog-out, 160 contact-in, 128 relay driver-out	No default allocations
Actuator Outputs	2 4–20 / 20–160 mA	2 4–20 / 20–160 mA	2 4–20 / 20–160 mA	2 proportional 4–20/20–160 mA (4 max +4 integrating max)
Digital Communi-cations Ports	3 isolated ports 1 RS-232 service 2 configurable for RS-232/422/485, Modbus RTU & DDE via serial	3 isolated ports 1 RS-232 service 2 configurable for RS-232/422/485, Modbus RTU & DDE via serial	2 configurable for RS-232/422/485, 2 CAN ports, 1 Profibus DP, 4 Ethernet ports (for TCP/IP, UDP/IP, OPC, EGD, Modbus, CANopen)	1 configurable for RS-232/422/485 base (2 max), 2 CAN ports base (4 max), 2 Ethernet ports (for TCP/IP, UDP/IP, OPC, EGD, Modbus) (4 max)
Prod. Spec.	03319	03319	03351	(not released)
Manual	26262	26262	26433	(not released)

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