

505 / 505E Features and Functions

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Features			
	Original 505/505E (1985–1994)	Enhanced 505/505E (1994–May, 1996)	New Style 505/505E (May, 1996–present)
Monitor Mode	No Program Monitor Mode	Program Monitor Mode while Running	Program Monitor Mode while Running
Hand Valve Control	Hand Valve Actuation on Actuator Position	Hand Valve Actuation on Actuator Position	Hand Valve Actuation on Act Position or First Stage Press
Function Keys	No Programmable Function Keys	No Programmable Function Keys	2 Programmable Function Keys
Tunables	11 On-Line Program Tunables	18 On-Line Program Tunables	100+ On-Line Program Tunables
Start Permissives	No Start Permissive	Start Permissive Function	Start Permissive Function
External Shutdown	1 External Shutdown Input	1 External Shutdown Input	5 External Shutdown Inputs with First Out Indication
Extr/Adm Priority Select	Auto Extraction Priority Select (505E)	Bumpless Auto Extraction Priority Select (505E)	Bumpless Auto Extraction Priority Select (505E)
Local/Remote	N/A	N/A	Selectable Local/Remote Control
Discrete I/O Monitoring	N/A	N/A	Contact Input and Relay Output Monitoring
Relay Testing	N/A	N/A	Relay Output Forcing (Test)
Analog Monitoring	N/A	N/A	Analog Input and Output Monitoring
Analog Calibration	N/A	N/A	Analog Input and Output Calibration
Graphics	N/A	N/A	Optional Graphic Display Panel
PC Interface	N/A	N/A	Optional PC/Windows Programming Interface

Operational Modes			
Operational Modes	Run & Program	Run & Program	Run, Program, Service
Extr/Adm Ctrl (505E)	Extraction Control	Extr & Admission Control	Extr & Admission Control
Ratio/Limiter (505E)	Coupled HP & LP	Coupled HP & LP	Coupled HP & LP Decoupled–Inlet Decoupled–Exhaust Decoupled HP & LP
Synch/Load Sharing	No Synch or Load Sharing	Isochronous Load Sharing With DSLC	Synch or Isochronous Load Sharing with DSLC
Dynamics	Single Set of Dynamics (Speed PID)	Dual Dynamics (Speed PID)	Dual Dynamics (Speed PID)
Start Sequence	Manual, Idle/Rated Start Sequence	Manual, Idle/Rated Start Sequence	Manual, Idle/Rated, Auto Start Sequence with Hot or Cold Start
Cascade	Cascade–Deadband Control	Cascade–Deadband Control	Cascade–PID Control
Auxiliary Loop	Auxiliary PID as a Limiter (505)	Auxiliary PID as a Limiter (505)	Auxiliary PID as a Limiter or Controller (505/505E)
4–20 mA Remote Setpoint	Speed Setpoint	Speed Setpoint	Speed Setpoint Extr/Adm Setpoint (505E) Auxiliary Setpoint Cascade Set point

Operational Modes (continued)			
Communication	1 Communication Port RS-232 Fixed Program 300–9600 Baud	1 Communication Port RS-232 Fixed Program Modbus RTU or ASCII 300–9600 Baud	2 Communication Ports RS-232 / RS-422 / RS-485 Modbus RTU Or ASCII 300–57 600 Baud

Hardware			
	Original 505/505E (1985–1994)	Enhanced 505/505E (1994–May, 1996)	New Style 505/505E (May, 1996–present)
Microprocessor	16 Bit Zilog (Z-8000)	16 Bit Zilog (Z-8000)	32 Bit Motorola (68332)
Display	LCD 2 Line Display (22 characters per line)	LCD 2 Line Display (22 characters per line)	LED 2 Line Display (24 characters per line)
Termination	Attached Terminal Blocks	Attached Terminal Blocks	Removable Terminal Blocks
Dimensions	22.5"H x 18.5"W x 9.0"D (572 x 470 x 229 mm) Enclosure	22.5"H x 18.5"W x 9.0"D (572 x 470 x 229 mm) Enclosure	11.0"H x 14.0"W x 4.0"D (279 x 356 x 102 mm) Enclosure
Keypad	27 Key Front Service Panel	27 Key Front Service Panel	30 Key Front Service Panel
Retrofit Mounting Kit to replace older 505/505E with new style 505/505E	N/A	N/A	Flush Mount Kit (8923-134) Bulkhead Mount Kit (8923-135)

I/O			
Speed Sensing	(2) MPUs—Passive Only (350 Hz to 12 kHz)	(2) MPUs—Passive Only (350 Hz to 12 kHz)	(2) MPUs, Proximity Probes or one of each (0.5 Hz to 15 kHz)
Analog Inputs	(4) Analog Inputs—Fixed	(4) Analog Inputs—Fixed	(6) Analog Inputs— Programmable (10+ choices)
Discrete Inputs	16 Contact Inputs (6 fixed, 10 programmable) (13 choices)	16 Contact Inputs (6 fixed, 10 programmable) (15 choices)	(16) Contact Inputs (4 fixed, 12 programmable) (26+ choices)
Actuator Outputs	Selectable 2 Actuator Outputs (4–20 mA Or 20–160 mA)	Selectable 2 Actuator Outputs (4–20 mA Or 20–160 mA)	Selectable 2 Actuator Outputs (4–20 mA and/or 20–160 mA)
Analog Outputs	4 Analog Outputs (4–20 mA) (11 choices)	4 Analog Outputs (4–20 mA) (11 choices)	6 Analog Outputs (4–20 mA) Act#2 as Analog Output #7 (17+ choices)
Discrete Outputs	8 Contact Outputs (3 fixed, 5 programmable)	8 Contact Outputs (3 fixed, 5 programmable) (11 choices)	8 Contact Outputs (2 fixed, 6 programmable) (30+ choices)

Protection			
Security	Program Security—Hardware Jumper	Program Security—Hardware Jumper	Program Security—Password

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PO Box 1519, Fort Collins CO 80522-1519, USA
1000 East Drake Road, Fort Collins CO 80525, USA
Phone +1 (970) 482-5811 • Fax +1 (970) 498-3058

Email and Website—www.woodward.com

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