

§ Advanced Module Required

⊗ External HF Starter Required ~ Three Phase Input Required

* Maximum Range is limited by power source rating, module rating, or feeder configuration

Ⓜ STT® Module Required

△ Tandem Controller Required

‡ STT® or Advanced Module Required

□ Availability of mode determined by output rating of equipment setup

ψ AutoDrive® S/SA Required

✱ AutoDrive® 4RS

Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)	
							Current	Speed
All	All	GMAW CV	STD CV (~)		5	Pinch	10	45 V
		GMAW Power	Power Mode® (~)		40	Pinch	0.1	23 kW
GMAW	0.030	GMAW CV	CV	CO ₂	93	Pinch	75	1200 ipm (1.91 — 30.48 m/min)
				Argon Mix	94		75	1200 ipm (1.91 — 30.48 m/min)
		GMAW Pulse	Pulse	Argon Mix	95	UltimArc®	65	1200 ipm (1.65 — 30.48 m/min)
	0.035	GMAW CV	CV	CO ₂	10	Pinch	50	1200 ipm (1.27 — 30.48 m/min)
				Argon Mix	11		50	1200 ipm (1.27 — 30.48 m/min)
		GMAW Pulse	Pulse	Argon Mix	12	UltimArc®	60	1200 ipm (1.52 — 30.48 m/min)
			RapidArc®	Argon Mix	13		60	1200 ipm (1.52 — 30.48 m/min)
			Precision Pulse™	Argon Mix	411		100	600 ipm (2.54 — 15.24 m/min)
			Rapid X®(‡)	Argon Mix	272		75	1200 ipm (1.91 — 30.48 m/min)
			Rapid X® LS(‡)	Argon Mix	590		100	800 ipm (2.54 — 20.32 m/min)
			Low Fume Pulse™(‡)	Argon Mix	550		75	1200 ipm (1.91 — 30.48 m/min)
		GMAW STT®	Synergic STT®(‡)	CO ₂	324	UltimArc®, Hot Start	100	225 ipm (2.54 — 5.72 m/min)
				Argon Mix	325		100	225 ipm (2.54 — 5.72 m/min)
			NonSynergic STT®(‡)	CO ₂	304	Peak, Background, Tailout, Hot Start	100	300 ipm (2.54 — 7.62 m/min)
		GMAW AC STT®	Synergic AC STT®(§)	CO ₂	380	Balance, UltimArc®	50	200 ipm (1.27 — 5.08 m/min)
	Argon Mix			381	50		200 ipm (1.27 — 5.08 m/min)	
	0.040	GMAW CV	CV	CO ₂	138	Pinch	50	1200 ipm (1.27 — 30.48 m/min)
				Argon Mix	139		50	1200 ipm (1.27 — 30.48 m/min)
		GMAW Pulse	Pulse	Argon Mix	140	UltimArc®	60	1200 ipm (1.52 — 30.48 m/min)
			RapidArc®	Argon Mix	141		60	1200 ipm (1.52 — 30.48 m/min)
			Precision Pulse™	Argon Mix	412		75	600 ipm (1.91 — 15.24 m/min)
			Rapid X®(‡)	Argon Mix	273		75	800 ipm (1.91 — 20.32 m/min)
			Rapid X® LS(‡)	Argon Mix	592		100	800 ipm (2.54 — 20.32 m/min)
			Low Fume Pulse™(‡)	Argon Mix	551		75	800 ipm (1.91 — 20.32 m/min)
		GMAW STT®	Synergic STT®(‡)	CO ₂	326	UltimArc®, Hot Start	90	225 ipm (2.29 — 5.72 m/min)
				Argon Mix	327		90	225 ipm (2.29 — 5.72 m/min)
			NonSynergic STT®(‡)	CO ₂	306	Peak, Background, Tailout, Hot Start	90	225 ipm (2.29 — 5.72 m/min)
		GMAW AC STT®	Synergic AC STT®(§)	CO ₂	382	Balance, UltimArc®	45	185 ipm (1.14 — 4.7 m/min)
	Argon Mix			383	45		185 ipm (1.14 — 4.7 m/min)	
	0.045	GMAW CV	CV	CO ₂	20	Pinch	50	800 ipm (1.27 — 20.32 m/min)
				Argon Mix	21		50	800 ipm (1.27 — 20.32 m/min)
		GMAW Pulse	Pulse	Argon Mix	22	UltimArc®	50	800 ipm (1.27 — 20.32 m/min)
			RapidArc®	Argon Mix	18		75	800 ipm (1.91 — 20.32 m/min)
			RapidArc® CP (X)	Argon Mix	757		75	650 ipm (1.91 — 16.51 m/min)
			Precision Pulse™	Argon Mix	413		75	600 ipm (1.91 — 15.24 m/min)
			Rapid X®(‡)	Argon Mix	274		100	800 ipm (2.54 — 20.32 m/min)
			Rapid X® LS(‡)	Argon Mix	594		100	600 ipm (2.54 — 15.24 m/min)
		Low Fume Pulse™(‡)	Argon Mix	552	100	800 ipm (2.54 — 20.32 m/min)		
		GMAW STT®	Synergic STT®(‡)	CO ₂	328	UltimArc®, Hot Start	90	200 ipm (2.29 — 5.08 m/min)
				Argon Mix	329		90	200 ipm (2.29 — 5.08 m/min)
			NonSynergic STT®(‡)	CO ₂	308	Peak, Background, Tailout, Hot Start	90	225 ipm (2.29 — 5.72 m/min)
	GMAW AC STT®	Synergic AC STT®(§)	CO ₂	384	Balance, UltimArc®	40	170 ipm (1.02 — 4.32 m/min)	
Argon Mix			385	40		170 ipm (1.02 — 4.32 m/min)		
0.052	GMAW CV	CV (□)	CO ₂	24	Pinch	50	750 ipm (1.27 — 19.05 m/min)	
			Argon Mix	25		50	700 ipm (1.27 — 17.78 m/min)	
	GMAW Pulse	Pulse (□)	Argon Mix	26	UltimArc®	50	700 ipm (1.27 — 17.78 m/min)	
		RapidArc® (□)	Argon Mix	27		60	750 ipm (1.52 — 19.05 m/min)	
		Precision Pulse™ (□)	Argon Mix	414		75	500 ipm (1.91 — 12.7 m/min)	
		Rapid X®(‡,□)	Argon Mix	275		75	600 ipm (1.91 — 15.24 m/min)	
		Low Fume Pulse™(‡,□)	Argon Mix	553		75	600 ipm (1.91 — 15.24 m/min)	
	GMAW STT®	Synergic STT®(‡,□)	CO ₂	330	UltimArc®, Hot Start	75	175 ipm (1.91 — 4.45 m/min)	
			Argon Mix	331		75	175 ipm (1.91 — 4.45 m/min)	
NonSynergic STT®(‡,□)		CO ₂	310	Peak, Background, Tailout, Hot Start	90	150 ipm (2.29 — 3.81 m/min)		
1/16	GMAW CV	CV (□)	Argon Mix	107	Pinch	50	650 ipm (1.27 — 16.51 m/min)	
	GMAW Pulse	Pulse (□)	Argon Mix	108	UltimArc®	50	500 ipm (1.27 — 12.7 m/min)	

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✕ AutoDrive® 4RS

* Maximum Range is limited by power source rating, module rating, or feeder configuration

Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)				
							ipm	m/min			
GMAW	Stainless	GMAW CV	CV	Argon Mix	61	Pinch	100	1200	ipm	(2.54 — 30.48 m/min)	
			He Ar CO ₂	63	100		1200	ipm	(2.54 — 30.48 m/min)		
		GMAW Pulse	Pulse	He Ar CO ₂	64	UltimArc®	90	1200	ipm	(2.29 — 30.48 m/min)	
				Argon Mix	66		80	1200	ipm	(2.03 — 30.48 m/min)	
			Precision Pulse™	Argon Mix	420	UltimArc®	100	800	ipm	(2.54 — 20.32 m/min)	
				He Ar CO ₂	430		100	800	ipm	(2.54 — 20.32 m/min)	
		0.035	GMAW CV	CV	Argon Mix	31	Pinch	75	1200	ipm	(1.91 — 30.48 m/min)
				He Ar CO ₂	33	75		1200	ipm	(1.91 — 30.48 m/min)	
	GMAW Pulse		Pulse	He Ar CO ₂	34	UltimArc®	75	1200	ipm	(1.91 — 30.48 m/min)	
				Argon Mix	36		60	1200	ipm	(1.52 — 30.48 m/min)	
			Precision Pulse™	Argon Mix	421	UltimArc®	100	600	ipm	(2.54 — 15.24 m/min)	
				He Ar CO ₂	431		100	700	ipm	(2.54 — 17.78 m/min)	
	GMAW STT®		Rapid X®(‡)	Argon Mix	282	UltimArc®	100	800	ipm	(2.54 — 20.32 m/min)	
				Argon Mix	364		100	300	ipm	(2.54 — 7.62 m/min)	
		Synergic STT®(‡)	He Ar CO ₂	365	UltimArc®, Hot Start	100	250	ipm	(2.54 — 6.35 m/min)		
			Argon Mix	344		Peak, Background, Tailout, Hot Start	100	300	ipm	(2.54 — 7.62 m/min)	
	NonSynergic STT®(‡)	He Ar CO ₂	345	100	300		ipm	(2.54 — 7.62 m/min)			
		0.040	GMAW STT®	Synergic STT®(‡)	Argon Mix	366	UltimArc®, Hot Start	100	300	ipm	(2.54 — 7.62 m/min)
	He Ar CO ₂				367	100		250	ipm	(2.54 — 6.35 m/min)	
	NonSynergic STT®(‡)		Argon Mix	346	Peak, Background, Tailout, Hot Start	100	300	ipm	(2.54 — 7.62 m/min)		
			He Ar CO ₂	347		100	300	ipm	(2.54 — 7.62 m/min)		
	0.045	GMAW CV	CV	Argon Mix	41	Pinch	75	800	ipm	(1.91 — 20.32 m/min)	
			He Ar CO ₂	43	75		800	ipm	(1.91 — 20.32 m/min)		
			Pulse	He Ar CO ₂	44		UltimArc®	75	800	ipm	(1.91 — 20.32 m/min)
				Argon Mix	46			50	800	ipm	(1.27 — 20.32 m/min)
		GMAW Pulse	Precision Pulse™	Argon Mix	423	UltimArc®	50	400	ipm	(1.27 — 10.16 m/min)	
				He Ar CO ₂	433		60	400	ipm	(1.52 — 10.16 m/min)	
			Rapid X®(‡)	Argon Mix	284	UltimArc®	100	800	ipm	(2.54 — 20.32 m/min)	
Argon Mix				368	90		200	ipm	(2.29 — 5.08 m/min)		
GMAW STT®		Synergic STT®(‡)	He Ar CO ₂	369	UltimArc®, Hot Start	90	200	ipm	(2.29 — 5.08 m/min)		
			Argon Mix	348		Peak, Background, Tailout, Hot Start	90	225	ipm	(2.29 — 5.72 m/min)	
		NonSynergic STT®(‡)	He Ar CO ₂	349	90		225	ipm	(2.29 — 5.72 m/min)		
			Argon Mix	349	90	225	ipm	(2.29 — 5.72 m/min)			
1/16	GMAW CV	CV (□)	Argon Mix	51	Pinch	50	515	ipm	(1.27 — 13.08 m/min)		
	GMAW Pulse	Pulse (□)	Argon Mix	56	UltimArc®	50	635	ipm	(1.27 — 16.13 m/min)		
Metal Core	0.035	GMAW AC Pulse	Rapid Z®(§)	Argon Mix	472	UltimArc®	75	900	ipm	(1.91 — 22.86 m/min)	
	0.040	GMAW AC Pulse	Rapid Z®(§)	Argon Mix	473	UltimArc®	70	700	ipm	(1.78 — 17.78 m/min)	
	0.045	GMAW CV	CV	Argon Mix	81	Pinch	100	700	ipm	(2.54 — 17.78 m/min)	
			Constant Penetration (✕)	Argon Mix	772		UltimArc® & Magnet Start	50	700	ipm	(1.27 — 17.78 m/min)
		GMAW Pulse	Pulse	Argon Mix	82	UltimArc®	300	650	ipm	(7.62 — 16.51 m/min)	
			RapidArc®	Argon Mix	87		75	800	ipm	(1.91 — 20.32 m/min)	
			Rapid X®(‡)	Argon Mix	294		75	800	ipm	(1.91 — 20.32 m/min)	
			RapidArc® CP (✕)	Argon Mix	767		UltimArc® & Magnet Start	75	650	ipm	(1.91 — 16.51 m/min)
	GMAW AC Pulse	Rapid Z®(§)	Argon Mix	474	UltimArc®	70	500	ipm	(1.78 — 12.7 m/min)		
	0.052	GMAW CV	CV (□)	Argon Mix	83	Pinch	50	600	ipm	(1.27 — 15.24 m/min)	
			Pulse (□)	Argon Mix	84		50	600	ipm	(1.27 — 15.24 m/min)	
		GMAW Pulse	RapidArc® (□)	Argon Mix	88	UltimArc®	60	800	ipm	(1.52 — 20.32 m/min)	
			Rapid X®(‡,□)	Argon Mix	295		60	650	ipm	(1.52 — 16.51 m/min)	
			Low Fume Pulse™(‡,□)	Argon Mix	558		60	650	ipm	(1.52 — 16.51 m/min)	
	1/16	GMAW CV	CV (□)	Argon Mix	85	Pinch	50	450	ipm	(1.27 — 11.43 m/min)	
			Pulse (□)	Argon Mix	86		50	450	ipm	(1.27 — 11.43 m/min)	
		GMAW Pulse	RapidArc® (□)	Argon Mix	89	UltimArc®	60	450	ipm	(1.52 — 11.43 m/min)	
			Rapid X®(‡,□)	Argon Mix	296		75	450	ipm	(1.91 — 11.43 m/min)	
Stainless Metal Core EC4XX	0.045	GMAW Pulse	Rapid X®(‡)	Argon Mix	290	UltimArc®	75	800	ipm	(1.91 — 20.32 m/min)	

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Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)	
Aluminum 4XXX	0.035	GMAW CV	CV	Argon	148	Pinch	150 — 750 ipm (3.81 — 19.05 m/min)	
		GMAW Pulse	Pulse	Argon	149	UltimArc®	125 — 800 ipm (3.18 — 20.32 m/min)	
			CC Pulse	Argon	150		125 — 800 ipm (3.18 — 20.32 m/min)	
			Precision Pulse™	Argon	565		125 — 800 ipm (3.18 — 20.32 m/min)	
		GMAW Pulse-on-Pulse®	Pulse-on-Pulse®	Argon	98	Frequency	125 — 800 ipm (3.18 — 20.32 m/min)	
		GMAW AC Pulse	AC Precision Pulse™(§)	Argon	575	UltimArc®	125 — 700 ipm (3.18 — 17.78 m/min)	
	AC Pulse (§)		Argon	391	125 — 700 ipm (3.18 — 17.78 m/min)			
	0.040	GMAW Pulse	Precision Pulse™	Argon	566	UltimArc®	125 — 800 ipm (3.18 — 20.32 m/min)	
	3/64	GMAW CV	CV	Argon	71	Pinch	125 — 700 ipm (3.18 — 17.78 m/min)	
			Pulse	Argon	72	UltimArc®	85 — 600 ipm (2.16 — 15.24 m/min)	
			CC Pulse	Argon	69		85 — 600 ipm (2.16 — 15.24 m/min)	
		Precision Pulse™	Argon	567	85 — 600 ipm (2.16 — 15.24 m/min)			
		GMAW Pulse-on-Pulse®	Pulse-on-Pulse®	Argon	99	Frequency	85 — 500 ipm (2.16 — 12.7 m/min)	
		GMAW AC Pulse	AC Precision Pulse™(§)	Argon	577	UltimArc®	125 — 500 ipm (3.18 — 8.89 m/min)	
	AC Pulse (§)		Argon	393	100 — 500 ipm (2.54 — 12.7 m/min)			
	1/16	GMAW CV	CV (□)	Argon	73	Pinch	75 — 375 ipm (1.91 — 9.53 m/min)	
			Pulse (□)	Argon	74	UltimArc®	75 — 350 ipm (1.91 — 8.89 m/min)	
			CC Pulse (□)	Argon	79		75 — 350 ipm (1.91 — 8.89 m/min)	
		Precision Pulse™ (□)	Argon	568	75 — 350 ipm (1.91 — 8.89 m/min)			
		GMAW Pulse-on-Pulse®	Pulse-on-Pulse® (□)	Argon	100	Frequency	80 — 400 ipm (2.03 — 10.16 m/min)	
		GMAW AC Pulse	AC Precision Pulse™(§,□)	Argon	578	UltimArc®	100 — 350 ipm (2.54 — 8.89 m/min)	
	AC Pulse (§,□)		Argon	394	100 — 400 ipm (2.54 — 10.16 m/min)			
	0.072	GMAW Pulse	AluMax™ (ψ)	Argon	569	UltimArc®	75 — 250 ipm (1.91 — 6.35 m/min)	
	Aluminum 5XXX	0.035	GMAW CV	CV	Argon	151	Pinch	175 — 750 ipm (4.45 — 19.05 m/min)
			GMAW Pulse	Pulse	Argon	152	UltimArc®	150 — 800 ipm (3.81 — 20.32 m/min)
				CC Pulse	Argon	153		150 — 800 ipm (3.81 — 20.32 m/min)
				Precision Pulse™	Argon	570		150 — 800 ipm (3.81 — 20.32 m/min)
GMAW Pulse-on-Pulse®			Pulse-on-Pulse®	Argon	101	Frequency	140 — 800 ipm (3.56 — 20.32 m/min)	
GMAW AC Pulse			AC Precision Pulse™(§)	Argon	580	UltimArc®	150 — 800 ipm (3.81 — 20.32 m/min)	
		AC Pulse (§)	Argon	396	125 — 800 ipm (3.18 — 20.32 m/min)			
0.040		GMAW Pulse	Precision Pulse™	Argon	571	UltimArc®	150 — 800 ipm (3.81 — 20.32 m/min)	
3/64		GMAW CV	CV	Argon	75	Pinch	125 — 750 ipm (3.18 — 19.05 m/min)	
			Pulse	Argon	76	UltimArc®	85 — 700 ipm (2.16 — 17.78 m/min)	
			CC Pulse	Argon	70		85 — 700 ipm (2.16 — 17.78 m/min)	
		Precision Pulse™	Argon	572	85 — 700 ipm (2.16 — 17.78 m/min)			
		GMAW Pulse-on-Pulse®	Pulse-on-Pulse®	Argon	102	Frequency	100 — 600 ipm (2.54 — 15.24 m/min)	
		GMAW AC Pulse	AC Precision Pulse™(§)	Argon	582	UltimArc®	100 — 700 ipm (2.54 — 17.78 m/min)	
AC Pulse (§)			Argon	398	85 — 600 ipm (2.16 — 15.24 m/min)			
1/16		GMAW CV	CV (□)	Argon	77	Pinch	125 — 500 ipm (3.18 — 12.7 m/min)	
			Pulse (□)	Argon	78	UltimArc®	100 — 500 ipm (2.54 — 12.7 m/min)	
			CC Pulse (□)	Argon	80		100 — 450 ipm (2.54 — 11.43 m/min)	
		Precision Pulse™ (□)	Argon	573	100 — 500 ipm (2.54 — 12.7 m/min)			
		GMAW Pulse-on-Pulse®	Pulse-on-Pulse® (□)	Argon	103	Frequency	75 — 350 ipm (1.91 — 8.89 m/min)	
		GMAW AC Pulse	AC Precision Pulse™(§,□)	Argon	583	UltimArc®	100 — 400 ipm (2.54 — 10.16 m/min)	
AC Pulse (§,□)			Argon	399	100 — 400 ipm (2.54 — 10.16 m/min)			
0.072		GMAW Pulse	AluMax™ (ψ)	Argon	574	UltimArc®	75 — 350 ipm (1.91 — 8.89 m/min)	
SiBr		0.035	GMAW Pulse	Pulse	Argon	192	UltimArc®	80 — 1200 ipm (2.03 — 30.48 m/min)
			GMAW STT®	Synergic STT®(‡)	Argon	335	UltimArc®	140 — 450 ipm (3.56 — 11.43 m/min)
		0.040	GMAW STT®	Synergic STT®(‡)	Argon	336		120 — 350 ipm (3.05 — 8.89 m/min)
		0.045	GMAW Pulse	Pulse	Argon	191	UltimArc®	50 — 600 ipm (1.27 — 15.24 m/min)
GMAW STT®	Synergic STT®(‡)		Argon	337	90 — 300 ipm (2.29 — 7.62 m/min)			
Cu	0.035	GMAW Pulse	Pulse	Argon Helium	198	UltimArc®	100 — 700 ipm (2.54 — 17.78 m/min)	
	0.045	GMAW Pulse	Pulse	Argon Helium	196	UltimArc®	75 — 500 ipm (1.91 — 12.7 m/min)	
NiCr	0.035	GMAW Pulse	Pulse	Ar/ Ar He	501	UltimArc®	75 — 800 ipm (1.91 — 20.32 m/min)	
	0.045	GMAW Pulse	Pulse	Ar/ Ar He	503	UltimArc®	75 — 600 ipm (1.91 — 15.24 m/min)	
	1/16	GMAW Pulse	Pulse (□)	Ar/ Ar He	505	UltimArc®	75 — 350 ipm (1.91 — 8.89 m/min)	
NiCu / CuNi	0.035	GMAW Pulse	Pulse	Ar/ Ar He	507	UltimArc®	75 — 800 ipm (1.91 — 20.32 m/min)	
	0.045	GMAW Pulse	Pulse	Ar/ Ar He	509	UltimArc®	75 — 600 ipm (1.91 — 15.24 m/min)	
	1/16	GMAW Pulse	Pulse (□)	Ar/ Ar He	511	UltimArc®	50 — 350 ipm (1.27 — 8.89 m/min)	
NiFe- CI	0.035	GMAW Pulse	Pulse	Ar/ Ar He	513	UltimArc®	75 — 800 ipm (1.91 — 20.32 m/min)	
	0.045	GMAW Pulse	Pulse	Ar/ Ar He	515	UltimArc®	75 — 600 ipm (1.91 — 15.24 m/min)	
Ni-1	0.035	GMAW Pulse	Pulse	Ar/ Ar He	519	UltimArc®	75 — 800 ipm (1.91 — 20.32 m/min)	
	0.045	GMAW Pulse	Pulse	Ar/ Ar He	521	UltimArc®	75 — 600 ipm (1.91 — 15.24 m/min)	
	1/16	GMAW Pulse	Pulse (□)	Ar/ Ar He	523	UltimArc®	50 — 300 ipm (1.27 — 7.62 m/min)	
Ni-CI	0.035	GMAW Pulse	Pulse	Ar/ Ar He	525	UltimArc®	75 — 800 ipm (1.91 — 20.32 m/min)	
	0.045	GMAW Pulse	Pulse	Ar/ Ar He	527	UltimArc®	75 — 500 ipm (1.91 — 12.7 m/min)	

Weld Set Reference: Z264504
Power Wave® S500/R450 (Imperial units)



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Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)			
							V	ipm	m/min	
FCAW	Flux Core	All	FCAW-S	Self Shield CV (~)	NA	6	Pinch	10 — 45	V	
			FCAW-G	Gas Shield CV (~)		7	Pinch	10 — 45	V	
	Cored Wire	0.045	FCAW-G	CV	CO ₂	90	Pinch	175 — 600	ipm	(4.45 — 15.24 m/min)
					Argon Mix	91		175 — 600	ipm	(4.45 — 15.24 m/min)
		0.052	FCAW-G	CV (□)	CO ₂	187	Pinch	150 — 500	ipm	(3.81 — 12.7 m/min)
					Argon Mix	188		150 — 500	ipm	(3.81 — 12.7 m/min)
1/16	FCAW-G	CV (□)	CO ₂	189	Pinch	125 — 400	ipm	(3.18 — 10.16 m/min)		
			Argon Mix	190		125 — 400	ipm	(3.18 — 10.16 m/min)		
SMAW	NA	NA	DCEP SMAW	Soft	NA	1	Arc Force, Hot Start	15 — 555	A	
				Crisp	NA	2	Arc Force, Hot Start	15 — 555	A	
				Pipe	NA	4	Arc Force	50 — 250	A	
				SMAW DC- (§)	NA	379	Arc Force, Hot Start	15 — 350	A	
				AC SMAW	AC SMAW (§)	NA	374	Arc Force, Hot Start, Frequency	15 — 350	A
GTAW	NA	NA	DCEN GTAW	Touch Start TIG	Ar / He	3	Hot Start	5 — 555	A	
				Touch Start TIG Pulse	Ar / He	8	Frequency, Background, Hot Start	5 — 555	A	
				HF TIG (⊖)	Ar / He	375	Hot Start	5 — 450	A	
				HF TIG Pulse (⊖)	Ar / He	376	Frequency, Background, Hot Start	5 — 450	A	
			AC GTAW	Touch Start AC TIG (§)	Ar / He	377	AC Frequency, AC Balance, DC Offset, Hot Start	10 — 350	A	
				HF Start AC TIG (§)	Ar / He	378	AC Frequency, AC Balance, DC Offset, Hot Start	10 — 350	A	
CAG	NA	NA	CAG	Arc Gouge (~)	Compressed Air	9		60 — 555	A	
GMAW-Tandem	Steel	0.035	GMAW Tandem (Δ, ~)	Sync Pulse Lead	Argon Mix	400	UltimArc®, Phase Angle	100 — 1000	ipm	(2.54 — 25.4 m/min)
				Sync Pulse Trail	Argon Mix	401	UltimArc®	100 — 800	ipm	(2.54 — 20.32 m/min)
				HotWire Pulse Trail	Argon Mix	460		80 — 900	ipm	(2.03 — 22.86 m/min)
				Sync Pulse Lead	Argon Mix	402	UltimArc®, Phase Angle	150 — 800	ipm	(3.81 — 20.32 m/min)
				Sync Pulse Trail	Argon Mix	403	UltimArc®	150 — 800	ipm	(3.81 — 20.32 m/min)
				HotWire Pulse Trail	Argon Mix	461		80 — 800	ipm	(2.03 — 20.32 m/min)
		0.045	GMAW Tandem (Δ, ~)	Sync Pulse Lead	Argon Mix	404	UltimArc®, Phase Angle	100 — 700	ipm	(2.54 — 17.78 m/min)
				Sync Pulse Trail	Argon Mix	405	UltimArc®	100 — 700	ipm	(2.54 — 17.78 m/min)
				HotWire Pulse Trail	Argon Mix	462		75 — 800	ipm	(1.91 — 20.32 m/min)
		0.052	GMAW Tandem (Δ, ~, □)	Sync Pulse Lead	Argon Mix	406	UltimArc®, Phase Angle	100 — 800	ipm	(2.54 — 20.32 m/min)
				Sync Pulse Trail	Argon Mix	407	UltimArc®	100 — 800	ipm	(2.54 — 20.32 m/min)
				HotWire Pulse Trail	Argon Mix	463		50 — 800	ipm	(1.27 — 20.32 m/min)

§ Advanced Module Required

Ⓜ STT® Module Required

‡ STT® or Advanced Module Required

ψ AutoDrive® S/SA Required

⊖ External HF Starter Required ~ Three Phase Input Required

Δ Tandem Controller Required

□ Availability of mode determined by output rating of equipment setup

✱ AutoDrive® 4RS

* Maximum Range is limited by power source rating, module rating, or feeder configuration

HyperFill® ¹	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)		
	Steel	0.035	GMAW		HyperFill® (□)	Argon Mix	601	UltimArc®	150 — 650	ipm (3.81 — 16.51 m/min)
				HyperFill® RapidArc® (□)	Argon Mix	625		100 — 650	ipm (2.54 — 16.51 m/min)	
				HyperFill® STT® (Ⓜ)	Argon Mix	651	UltimArc®	100 — 250	ipm (2.54 — 6.35 m/min)	
0.040		GMAW		HyperFill® (□)	Argon Mix	602	UltimArc®	100 — 500	ipm (2.54 — 12.7 m/min)	
				HyperFill® RapidArc® (□)	Argon Mix	626		100 — 475	ipm (2.54 — 12.07 m/min)	
				HyperFill® STT® (Ⓜ)	Argon Mix	653	UltimArc®	75 — 200	ipm (1.91 — 5.08 m/min)	
0.045		GMAW		HyperFill® (□)	Argon Mix	603	UltimArc®	100 — 375	ipm (2.54 — 9.53 m/min)	
Stainless		0.035	GMAW		HyperFill® STT® (Ⓜ)	Argon Mix	660	UltimArc®	100 — 300	ipm (2.54 — 7.62 m/min)
					HyperFill® STT® (Ⓜ)	He Ar CO ₂	661	UltimArc®	100 — 300	ipm (2.54 — 7.62 m/min)
				HyperFill® RapidArc® (□)	Argon Mix	629	UltimArc®	100 — 500	ipm (2.54 — 12.7 m/min)	
	0.040	GMAW		HyperFill® STT® (Ⓜ)	Argon Mix	662	UltimArc®	100 — 250	ipm (2.54 — 6.35 m/min)	
			HyperFill® STT® (Ⓜ)	He Ar CO ₂	663	UltimArc®	100 — 200	ipm (2.54 — 5.08 m/min)		
Metal Core	0.045	GMAW		HyperFill® (□)	Argon Mix	608	UltimArc®	150 — 415	ipm (3.81 — 10.54 m/min)	
Cored Wire	0.045	FCAW-G		HyperFill® (□)	CO ₂	617		100 — 500	ipm (3.81 — 12.7 m/min)	
				HyperFill® (□)	Argon Mix	618	Pinch	100 — 580	ipm (2.54 — 14.73 m/min)	

GTAW - APEX® ²	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)		
	NA	NA	DCEN GTAW		Touch Start TIG	NA	490	Transition Speed	5 — 500	A
					HF TIG (⊖)	NA	491	Transition Speed	5 — 500	A
		AC GTAW		Hotwire AC TIG Square Wave(§)	NA	495	Frequency, Balance	0 — 350	A	

GTAW - LincMaster ³	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)	
	NA	NA	DCEN GTAW		HF TIG pulse	Ar/He	645	Peak Time, Background Time, and Background	5 — 450

PAW - LincMaster ³	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)		
	NA	NA	PAW		Plasma	Ar/He	640		5 — 410	A
					Plasma Pulse	Ar/He	641	Peak Time, Background Time, Background	5 — 410	A

Hot Wire	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)	
	NA	NA	Hot Wire		AC Hotwire	NA	780	Frequency, DC Offset	0 — 4

¹HyperFill® & Process HDT™ Waveform Activation Capability with Power Wave® and PIPEFAB™ Systems

Your purchase of a Lincoln Power Wave or PIPEFAB Welding System comes with (i) a license to use Lincoln Electric standard Power Wave / PIPEFAB waveforms, and (ii) HyperFill & Process HDT waveform capability, which requires a separate license. Without the separate license, the HyperFill and Process HDT waveforms are not available for use on these machines, and only the standard Power Wave / PIPEFAB waveforms are usable.

²APEX® System Required

³LincMaster System Required