

Δ Tandem Controller Required

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

Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)
All	All	GMAW CV	STD CV		5	Pinch	10 - 45 V
		GMAW Power	Power Mode®		40	Pinch	0.1 - 40kW
GMAW	0.8 mm	GMAW CV	CV	CO <sub>2</sub>	93	Pinch	75 - 1200 ipm
				Argon Mix	94		75 - 1200 ipm
		GMAW Pulse	Pulse	Argon Mix	95	UltimArc®	65 - 1200 ipm
			Precision Pulse™	Argon Mix	410		100 - 600 ipm
	0.9 mm	GMAW CV	CV	CO <sub>2</sub>	138	Pinch	50 - 1200 ipm
				Argon Mix	139		50 - 1200 ipm
		GMAW Pulse	Pulse	Argon Mix	140	UltimArc®	60 - 1200 ipm
			RapidArc®	Argon Mix	141		60 - 1200 ipm
		Precision Pulse™	Argon Mix	411	100 - 600 ipm		
	1.0 mm	GMAW CV	CV	CO <sub>2</sub>	10	Pinch	50 - 1200 ipm
				Argon Mix	11		50 - 1200 ipm
		GMAW Pulse	Pulse	Argon Mix	12	UltimArc®	75 - 1200 ipm
			RapidArc®	Argon Mix	13		60 - 1200 ipm
		Precision Pulse™	Argon Mix	412	75 - 600 ipm		
	1.2 mm	GMAW CV	CV	CO <sub>2</sub>	20	Pinch	50 - 800 ipm
				Argon Mix	21		50 - 800 ipm
		GMAW Pulse	Pulse	Argon Mix	22	UltimArc®	60 - 800 ipm
			RapidArc®	Argon Mix	18		60 - 800 ipm
		Precision Pulse™	Argon Mix	413	75 - 600 ipm		
	1.4 mm	GMAW CV	CV	CO <sub>2</sub>	24	Pinch	50 - 650 ipm
			Argon Mix	25	50 - 550 ipm		
GMAW Pulse		Pulse	Argon Mix	26	UltimArc®	50 - 600 ipm	
		RapidArc®	Argon Mix	27		60 - 650 ipm	
1.6 mm	GMAW CV	CV	Argon Mix	107	Pinch	50 - 350 ipm	
	GMAW Pulse	Pulse	Argon Mix	108	UltimArc®	50 - 400 ipm	
GMAW	0.8 mm	GMAW CV	CV	Argon Mix	61	Pinch	100 - 1200 ipm
				He Ar CO <sub>2</sub>	63		100 - 1200 ipm
	GMAW Pulse	Pulse	He Ar CO <sub>2</sub>	64	UltimArc®	100 - 1200 ipm	
			Argon Mix	66		100 - 1200 ipm	
	0.9 mm	GMAW CV	CV	Argon Mix	29	Pinch	75 - 1200 ipm
		GMAW Pulse	Pulse	Argon Mix	30	UltimArc®	60 - 1200 ipm
	Precision Pulse™		Argon Mix	421	100 - 600 ipm		
	1.0 mm	GMAW CV	CV	Argon Mix	31	Pinch	75 - 1200 ipm
				He Ar CO <sub>2</sub>	33		75 - 1000 ipm
		GMAW Pulse	Pulse	He Ar CO <sub>2</sub>	34	UltimArc®	60 - 1200 ipm
			Precision Pulse™	Argon Mix	36		60 - 1200 ipm
			Argon Mix	422	UltimArc®	60 - 600 ipm	
	1.2 mm	GMAW CV	CV	Argon Mix	41	Pinch	75 - 700 ipm
				He Ar CO <sub>2</sub>	43		75 - 700 ipm
		GMAW Pulse	Pulse	He Ar CO <sub>2</sub>	44	UltimArc®	75 - 700 ipm
			Precision Pulse™	Argon Mix	46		50 - 800 ipm
			Argon Mix	423	UltimArc®	50 - 400 ipm	
	1.6 mm	GMAW CV	CV	Argon Mix	51	Pinch	50 - 600 ipm
		GMAW Pulse	Pulse	Argon Mix	56	UltimArc®	50 - 700 ipm

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	<b>GMAW</b>	<b>Aluminum 4XXX</b>	1.0 mm	GMAW CV	CV	Argon	<b>148</b>	Pinch
GMAW Pulse				Pulse	Argon	<b>149</b>	UltimArc®	125 - 800 ipm
				CC Pulse	Argon	<b>150</b>		125 - 800 ipm
GMAW Pulse on Pulse*			Pulse on Pulse*	Argon	<b>98</b>	Frequency	100 - 500 ipm	
1.2 mm			GMAW CV	CV	Argon	<b>71</b>	Pinch	125 - 700 ipm
			GMAW Pulse	Pulse	Argon	<b>72</b>	UltimArc®	85 - 600 ipm
				CC Pulse	Argon	<b>69</b>		85 - 600 ipm
GMAW Pulse on Pulse*			Pulse on Pulse*	Argon	<b>99</b>	Frequency	85 - 500 ipm	
1.6 mm			GMAW CV	CV	Argon	<b>73</b>	Pinch	75 - 375 ipm
		GMAW Pulse	Pulse	Argon	<b>74</b>	UltimArc®	75 - 350 ipm	
			CC Pulse	Argon	<b>79</b>		75 - 350 ipm	
GMAW Pulse on Pulse*		Pulse on Pulse*	Argon	<b>100</b>	Frequency	80 - 400 ipm		
<b>Aluminum 5XXX</b>		1.0 mm	GMAW CV	CV	Argon	<b>151</b>	Pinch	175 - 750 ipm
			GMAW Pulse	Pulse	Argon	<b>152</b>	UltimArc®	125 - 700 ipm
				CC Pulse	Argon	<b>153</b>		125 - 700 ipm
		GMAW Pulse on Pulse*	Pulse on Pulse*	Argon	<b>101</b>	Frequency	140 - 800 ipm	
		1.2 mm	GMAW CV	CV	Argon	<b>75</b>	Pinch	125 - 750 ipm
			GMAW Pulse	Pulse	Argon	<b>76</b>	UltimArc®	85 - 700 ipm
				CC Pulse	Argon	<b>70</b>		85 - 700 ipm
		GMAW Pulse on Pulse*	Pulse on Pulse*	Argon	<b>102</b>	Frequency	100 - 600 ipm	
		1.6 mm	GMAW CV	CV	Argon	<b>77</b>	Pinch	125 - 500 ipm
GMAW Pulse			Pulse	Argon	<b>78</b>	UltimArc®	100 - 500 ipm	
			CC Pulse	Argon	<b>80</b>		100 - 450 ipm	
GMAW Pulse on Pulse*		Pulse on Pulse*	Argon	<b>103</b>	Frequency	75 - 350 ipm		
<b>Metal Core</b>	1.2 mm	GMAW CV	CV	Argon Mix	<b>81</b>	Pinch	50 - 700 ipm	
		GMAW Pulse	Pulse	Argon Mix	<b>82</b>	UltimArc®	50 - 700 ipm	
	1.4mm	GMAW Pulse	Pulse	Argon Mix	<b>84</b>	UltimArc®	50 - 600 ipm	
	1.6 mm	GMAW CV	CV	Argon Mix	<b>85</b>	Pinch	50 - 450 ipm	
		GMAW Pulse	Pulse	Argon Mix	<b>86</b>	UltimArc®	50 - 450 ipm	
<b>SiBr</b>	1.0mm	GMAW Pulse	Pulse	Argon	<b>192</b>	UltimArc®	80 - 1000 ipm	
	1.2mm	GMAW Pulse	Pulse	Argon	<b>191</b>	UltimArc®	50 - 600 ipm	
<b>Cu</b>	1.0mm	GMAW Pulse	Pulse	Argon Helium	<b>198</b>	UltimArc®	75 - 500 ipm	
	1.2mm	GMAW Pulse	Pulse	Argon Helium	<b>196</b>	UltimArc®	75 - 500 ipm	
<b>NiCr</b>	1.0mm	GMAW Pulse	Pulse	Ar/ Ar He	<b>502</b>	UltimArc®	75 - 800 ipm	
	1.2mm	GMAW Pulse	Pulse	Ar/ Ar He	<b>504</b>	UltimArc®	75 - 600 ipm	

	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Range*
	<b>FCAW</b>	<b>Flux Core</b>	All	FCAW-S	STD CV	NA	<b>6</b>	Pinch
FCAW-G				STD CV		<b>7</b>	Pinch	10 - 45 V
1.2 mm			FCAW-G	CV	CO <sub>2</sub>	<b>90</b>	Pinch	175 - 600 ipm
					Argon Mix	<b>91</b>		175 - 600 ipm
1.4 mm			FCAW-G	CV	CO <sub>2</sub>	<b>187</b>	Pinch	150 - 500 ipm
					Argon Mix	<b>188</b>		150 - 500 ipm
1.6 mm			FCAW-G	CV	CO <sub>2</sub>	<b>189</b>	Pinch	125 - 400 ipm
	Argon Mix	<b>190</b>			125 - 400 ipm			

**Weld Set Reference: Z163928**  
**Power Wave® S700**



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SMAW	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Range*
	NA	NA	DCEP SMAW	SMAW Soft	NA	1	Arc Force, Hot Start	15 - 900 A
				SMAW Crisp	NA	2	Arc Force, Hot Start	15 - 900 A
				SMAW Pipe	NA	4	Arc Force	50 - 250 A

GTAW	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Range*
	NA	NA	DCEN GTAW	GTAW Touch Start	Argon	3	Hot Start	5 - 900 A
				GTAW-P	Argon	8	Hot Start, Frequency, Background	5 - 800 A

CAG	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Range*
	NA	NA	CAG	CAG	CAG	Air	9	

GMAW-Tandem	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Range*
	Steel	1.0 mm	GMAW Tandem (Δ)	Sync Pulse Lead	Argon Mix	402	UltimArc®	150 - 800 ipm
				Sync Pulse Trail	Argon Mix	403		150 - 800 ipm
				HotWire Pulse Trail	Argon Mix	461		80 - 800 ipm
		1.2 mm	GMAW Tandem (Δ)	Sync Pulse Lead	Argon Mix	404	UltimArc®	100 - 700 ipm
				Sync Pulse Trail	Argon Mix	405		100 - 700 ipm
				HotWire Pulse Trail	Argon Mix	462		75 - 800 ipm
		1.4 mm	GMAW Tandem (Δ)	Sync Pulse Lead	Argon Mix	406	UltimArc®	100 - 600 ipm
				Sync Pulse Trail	Argon Mix	407		100 - 600 ipm
				HotWire Pulse Trail	Argon Mix	463		50 - 800 ipm
	1.6 mm	GMAW Tandem (Δ)	Sync Pulse Lead	Argon Mix	408	UltimArc®	100 - 500 ipm	
			Sync Pulse Trail	Argon Mix	409		100 - 500 ipm	
			HotWire Pulse Trail	Argon Mix	464		50 - 500 ipm	