



# Trip Unit Evolution



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Trip Unit Type	MicroVersaTrip®	RMS9	EPIC™ RMS9	MicroVersaTrip® Plus	MicroVersaTrip® PM	Enhanced MicroVersaTrip® Plus	Enhanced MicroVersaTrip® PM	MicroVersaTrip® Plus Power Break® II, WavePro	MicroVersaTrip® PM Power Break® II, WavePro	EntelliGuard® TU AKR, Power Break®, Conv. Kits	EntelliGuard® TU Power Break® II, WavePro	EntelliGuard® TU EntelliGuard® G
<b>Trip Unit Functions</b>	AKR, AK/AKR Conversion Kits, Power Break® circuit breakers, R-Frame					Replaces RMS9 & MicroVersaTrip® Plus/PM trip units		WavePro/Power Break® II circuit breakers		AKR & Power Break® circuit breakers and Conv. Kits	Power Break® II and WavePro circuit breakers	EntelliGuard® G circuit breakers
<b>Products</b>	AKR, AK/AKR Conversion Kits, Power Break® circuit breakers, R-Frame					Replaces RMS9 & MicroVersaTrip® Plus/PM trip units		WavePro/Power Break® II circuit breakers		AKR & Power Break® circuit breakers and Conv. Kits	Power Break® II and WavePro circuit breakers	EntelliGuard® G circuit breakers
<b>UL Interchangeable</b>	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
<b>Local Ampere Metering</b>	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Communications</b>	No	No	Yes <sup>1</sup>	No	Yes <sup>2</sup>	No	Yes <sup>2</sup>	No	Yes <sup>2</sup>	Yes (Modbus)	Yes (Modbus)	Yes (Modbus/Profibus)
<b>Remote Display</b>	No	No	No	No	No	Yes (AKR, AK/AKR Conversion Kits-Only)		Capable but not used for breaker		No (Use Enervista Panel PC)		
<b>Trip Targets</b>	Mechanical pop-out target		FPU	LCD segments		LCD segments	LCD segments	LCD segments	LCD segments	LCD segments	LCD segments	LCD segments
<b>Sensor Type</b>	Fixed or tapped CT	Fixed CT (Iron Core)	Fixed CT (Iron Core)	Fixed CT (Iron Core)	Fixed CT (Iron Core)	Fixed CT (Iron Core)	Fixed CT (Iron Core)	Fixed CT (Iron Core)	Fixed CT (Iron Core)	Fixed CT (Iron Core)	Fixed CT (Iron Core)	Fixed (Rogowski CT)
<b>Rating Plug Type</b>	None	Type TR00S0000	Type TR00S0000	Type TR00B0000	Type TR00B0000	Type TR00B0000	Type TR00B0000	Type TR00B0000	Type TR00B0000	Universal (GTP0000U0000)	Universal (GTP0000U0000)	Universal (GTP0000U0000)
<b>True RMS Sensing</b>	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Test Port/Test Kit</b>	No	Yes (Fully compatible w/TVRMS)		Yes (TVRMS2)	Yes (TVRMS2)	Yes (TVRMS2)	Yes (TVRMS2)	Yes (TVRMS2)	Yes (TVRMS2)	Yes (GTUTK20)	Yes (GTUTK20)	Yes (GTUTK20)
<b>Retrofits MicroVersaTrip Trip Units</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes (Retrofits MVT, RMS9, EPIC, MVT+, MVT PM)		
<b>Cold Setup</b>	Yes (Rotary switches)			No	No	Yes (Batteries)	Yes (Batteries)	Yes (Batteries)	Yes (Batteries)	Yes (Batteries)	Yes (Batteries)	Yes (Batteries)
<b>Adjustment Method</b>	Rotary switches			4-Key membrane keypad		5-Key ergonomic keypad	5-Key ergonomic keypad	5-Key ergonomic keypad	5-Key ergonomic keypad	5-Key ergonomic keypad	5-Key ergonomic keypad	5-Key ergonomic keypad
<b>LCD Display</b>	No	No	No	Yes (5:1 contrast ratio)		Yes (40:1 contrast ratio)	Yes (40:1 contrast ratio)	Yes (40:1 contrast ratio)	Yes (40:1 contrast ratio)	Yes (40:1 contrast ratio)	Yes - Large backlit*	Yes - Large backlit*
<b>Positive Indication of Setpoint Entry</b>	Yes (Switches)			No	No	Yes (Values flash until entered)	Yes (Values flash until entered)	Yes (Values flash until entered)	Yes (Values flash until entered)	Yes (Values flash until saved)	Yes (Values flash until saved)	Yes (Values flash until saved)
<b>Long-Time (LT) Pickup Indication</b>	LED light	LED light	LED light	"PICKUP" segment on LCD	"PICKUP" segment on LCD	"PICKUP" segment on LCD	"PICKUP" segment on LCD	"PICKUP" segment on LCD	"PICKUP" segment on LCD	"PICKUP" segment on LCD	"PICKUP" segment on LCD	"PICKUP" segment on LCD
<b>LT, LT Delay</b>	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
<b>Short Time (ST), ST Delay</b>	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Standard	Standard	Standard
<b>ST I<sup>2</sup>t In/Out</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Instantaneous</b>	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Standard	Standard	Standard
<b>Ground Fault (GF), GF Delay</b>	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
<b>GF I<sup>2</sup>t In/Out</b>	I <sup>2</sup> t STD (no in / out)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes- I <sup>2</sup> t, I <sup>2</sup> t, SGF, Definite Time Slope*		
<b>Switchable GF (not UL)</b>	No	AKR, AK/AKR Conversion Kits-Only option		AKR, AK/AKR Conversion Kits-Only option		Optional	Optional	Optional	Optional	Optional	Optional	Optional
<b>Hi-Range Instantaneous / Extended</b>	Optional, adjustable	Optional, adjustable	Optional, adjustable	Optional, fixed	Optional, fixed	Optional, fixed	Optional, fixed	Optional, fixed	Optional, fixed	Optional	Optional	Extended
<b>Zone Selective Interlock</b>	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
<b>Current (A, kA)</b>	No	No	No <sup>1</sup>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Voltage (V)</b>	No	No	No <sup>1</sup>	No	Yes	No	Yes	No	Yes	Optional- (Ph-Ph, Ph-N)	Optional- (Ph-Ph, Ph-N)	Optional- (Ph-Ph, Ph-N)
<b>Energy (kWh, MWh, GWh)</b>	No	No	No <sup>1</sup>	No	Yes	No	Yes	No	Yes	Optional	Optional	Optional
<b>Non-Volatile Memory</b>	No	No	No <sup>1</sup>	No	No	No	Yes	No	Yes	Yes	Yes	Yes
<b>Real Power (kW, MW)</b>	No	No	No <sup>1</sup>	No	Yes	No	Yes	No	Yes	Optional	Optional	Optional
<b>Total Power (kVA, MVA)</b>	No	No	No <sup>1</sup>	No	Yes	No	Yes	No	Yes	Optional	Optional	Optional
<b>Frequency (Hz)</b>	No	No	No <sup>1</sup>	No	Yes, at Monitor	No	Yes, at Monitor	No	Yes, at Monitor	Optional	Optional	Optional
<b>Demand/Peak Demand (kW, MW)</b>	No / No	No / No	No <sup>1</sup> / No	No / No	Yes / No	No / No	Yes / Yes	No / No	Yes / Yes	Optional	Optional	Optional
<b>Current Unbalance</b>	No	No	Yes <sup>1</sup>	No	Optional	No	Optional	No	Optional	Optional	Optional	Optional
<b>Voltage Unbalance</b>	No	No	Yes <sup>1</sup>	No	Optional	No	Optional	No	Optional	Optional	Optional	Optional
<b>Overvoltage</b>	No	No	No	No	Optional	No	Optional	No	Optional	Optional	Optional	Optional
<b>Undervoltage</b>	No	No	Yes <sup>1</sup>	No	Optional	No	Optional	No	Optional	Optional	Optional	Optional
<b>Power Reversal</b>	No	No	Yes <sup>1</sup>	No	Optional	No	Optional	No	Optional	Optional	Optional	Optional
<b>Power Reversal Direction</b>	No	No	No	No	No	No	Optional	No	Optional	Optional	Optional	Optional
<b>Fault Current Magnitude/Phase</b>	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Overcurrent Trip Operations Counter</b>	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>UVR, Shunt Trip Targets</b>	No	No	No	No	No	No	No	Yes	Yes	No	Yes	No
<b>Configurable Bell Alarm and Bell Alarm / Lockout (DIP Switch)</b>	No	No	No	No	No	No	No	PBII only	PBII only	No	PBII only (No DIP Switch)	No
<b>Waveform Recognition Instantaneous</b>	No	No	No	No	No	No	No	No	No	Standard	Standard	Standard
<b>Status and Event Log with Date Time* (10 Events)</b>	No	No	No	No	No	No	No	No	No	Standard	Standard	Standard
<b>Thermal Memory</b>	No	No	No	No	No	No	No	No	No	Standard	Standard	Standard
<b>Waveform Capture* 40 samples per cycle (4 cycles before and after)</b>	No	No	No	No	No	No	No	No	No	Optional	Optional	Optional
<b>Zone Selective Interlock Instantaneous*</b>	No	No	No	No	No	No	No	No	No	Optional	Optional	Optional
<b>Reduced Energy Let Through*</b>	No	No	No	No	No	No	No	No	No	Optional	Optional	Optional
<b>Setup Software</b>	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
<b>Health Status Indicator*</b>	No	No	No	No	No	Yes	Yes	Yes	Yes	Standard	Standard	Standard
<b>Bell Alarm Target Integral To Trip Unit</b>	No	No	No	No	No	No	No	No	No	No	No	Yes

\* Some options require 24VDC additional hardware to enable Metering, Relaying, RELT, ZSI, Modbus to be added to the breaker, equipment cubicle and equipment sections. <sup>1</sup> Function requires EPIC field programmable unit. <sup>2</sup> Function requires POWER LEADER™ or EPIC field programmable unit.

# Trip Unit Rating Plug Evolution

Frame Size (Amps)	Sensor Rating (Amps)	Current Rating (Amps)	Rating Plug Catalog Number for Trip Unit Type			Universal Rating Plug Catalog Number				
			MicroVersaTrip®	RMS9 & EPIC™	MicroVersaTrip® Plus/PM Enhanced MicroVersaTrip® Plus/PM Power Break® II Circuit breaker with MicroVersaTrip® Plus/PM	Plug Rating	Minimum Sensor	Maximum Sensor	EntelliGuard TU®	
800	200	100	Not available	TR2S100	TR2B100	60A	150A	150A	GTP0060U0101	
		150		TR2S150	TR2B150	80A	150A	150A	GTP0080U0101	
		200		TR2S200	TR2B200	100A	150A	225A	GTP0100U0103	
	400	150	Not available	TR4S150	TR4B150	125A	150A	225A	GTP0125U0103	
		200		TR4S200	TR4B200	150A	150A	400A	GTP0150U0104	
		225		TR4S225	TR4B225	200A	200A	400A	GTP0200U0204	
		250		TR4S250	TR4B250	225A	225A	600A	GTP0225U0306	
		300		TR4S300	TR4B300	250A	400A	630A	GTP0250U0407	
		400		TR4S400	TR4B400	300A	400A	800A	GTP0300U0408	
	800	300	Not available	TR8S300	TR8B300	350A	400A	800A	GTP0350U0408	
		400		TR8S400	TR8B400	400A	400A	1000A	GTP0400U0410	
		450		TR8S450	TR8B450	450A	600A	1200A	GTP0450U0612	
		500		TR8S500	TR8B500	500A	600A	1250A	GTP0500U0613	
		600		TR8S600	TR8B600	600A	600A	1600A	GTP0600U0616	
		700		TR8S700	TR8B700	700A	800A	1600A	GTP0700U0816	
	1600	1000	Not available	TR10S400	TR10B400	750A	800A	2000A	GTP0750U0820	
				600	TR10S600	TR10B600	800A	800A	2000A	GTP0800U0820
				800	TR10S800	TR10B800	900A	1000A	2000A	GTP0900U1020
1000				TR10S1000	TR10B1000	1000A	1000A	2500A	GTP1000U1025	
1600		Not available	600	TR16S600	TR16B600	1100A	1200A	2500A	GTP1100U1225	
			800	TR16S800	TR16B800	1200A	1200A	3200A	GTP1200U1232	
			1000	TR16S1000	TR16B1000	1500A	1600A	4000A	GTP1500U1640	
			1100	TR16S1100	TR16B1100	1600A	1600A	4000A	GTP1600U1640	
2000	2000	Not available	1200	TR16S1200	TR16B1200	1900A	2000A	5000A	GTP1900U2050	
			1500	TR16S1500	TR16B1500	2000A	2000A	5000A	GTP2000U2050	
			1600	TR16S1600	TR16B1600	2200A	2500A	5000A	GTP2200U2550	
			750	TR20S750	TR20B750	2400A	2500A	6400A	GTP2400U2564	
			800	TR20S800	TR20B800	2500A	2500A	6400A	GTP2500U2564	
			1000	TR20S1000	TR20B1000	3000A	3000A	6400A	GTP3000U3064	
			1200	TR20S1200	TR20B1200	3200A	3200A	6400A	GTP3200U3264	
			1500	TR20S1500	TR20B1500	3600A	4000A	6400A	GTP3600U4064	
2000	2000	Not available	1600	TR20S1600	TR20B1600	4000A	4000A	4000A	GTP4000K4040 <sup>3</sup>	
			2000	TR20S2000	TR20B2000	4000A	4000A	6400A	GTP4000U4064	
						5000A	5000A	6400A	GTP5000U5064	
						6000A	6000A	6400A	GTP6000U6064	

<sup>3</sup> For ITE and Allis Chalmers 4000A breakers.

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