

# Low Impedance Bus Differential – Selector Guide

Features	Device	P741/2/3	P746	P747	B30	B90
<b>APPLICATIONS</b>						
Busbars with up to # circuits (centralized)			6(1B)/18(3B)	18	6	24
Busbars with up to # circuits (distributed)		28				
High impedance Bus differential						
<b>PROTECTION &amp; CONTROL</b>						
Number of Differential Protection Zones		9	3	5	2	6
Check Zones		•	•	•	•	•
Typical Operating Time (cycles)		<1	<1	<1	<1	<1
Bus differential	87B	•	•	•	•	•
IOC, Ground/Phase	50G/P	•	•	•	•	•
TOC, Ground/Phase	51G/P	•	•	•	•	•
Overvoltage Auxiliary/Neutral	59X/N					
Phase Undervoltage	27P		•	•	•	•
Current Transformer Supervision		•	•	•	•	•
Sensitive Overvoltage (Buswire Supervision)						
Breaker Failure	50BF	•	•	•	•	•
End Fault Protection		•	•	•	•	•
Lockout Functionality	86	•	•	•	•	•
Dynamic Bus Replica		•	•	•	•	•
Graphical Display with Bay Control & Monitoring		with RHMI SW	with RHMI SW	with RHMI SW	•	•
<b>AUTOMATION</b>						
Programmable Logic		•	•	•	•	•
FlexElements™						•
Watchdog/Critical Failure Self-Test Monitoring		•	•	•		
Settings Groups		4	4	4	6	6
Non-volatile latches (including contact latches) (max)		•	•	•	16	16/box
Contact Inputs Programmable - (max)		24/box + 8	40/box	40/box	96	96/box
Contact Outputs Programmable - (max)		16/box + 8	32/box	32/box	84	84/box
Contact Outputs non programable						
Direct Inputs - (max)		8			96	96
Direct Outputs - (max)		8			96	96
GOOSE Inputs / Remote Inputs (up to)		64/box	128/box	128/box		
GOOSE Outputs / Remote Outputs (up to)		32/box	128/box	128/box		
User-Programmable LEDs (max)		8(P741-2)/18(P743)	18/box	18/box	48	48/box
User-definable mimic, metering, and annunciator						
User-Programmable Push Buttons (max)		10/box	10/box	10/box	12	12/box
User Definable Displays		•			•	•
User Programmable Self-Test Contact		•	•	•	•	•
Timers		•	•	•	•	•
Selector Switch					•	•
Digital Counters					•	•
Digital Elements					•	•
IRIG-B Input		•	•	•	•	•

Features Continued	Device	P741/2/3	P746	P747	B30	B90
<b>MONITORING &amp; METERING</b>						
Current		•	•	•	•	•
Voltage			•	•	•	•
Symmetrical Components						
Power - Apparent , Real, Reactive						
Energy						
Power Factor						
Frequency		•	•	•	•	•
Event Recorder - Number of Events		512	512	512	1024	1024
Oscillography		•	•	•	•	•
Trip/Close Coil Supervision		•	•	•	•	•
<b>COMMUNICATIONS</b>						
Front Port Local Access		•	•	•	•	•
RS232 Port		•	•	•	•	•
RS485 Port		•	•	•	•	•
Ethernet Port (Fiber and Copper, max)		2	2	2	3	3
Direct Fiber (800nm, 1330nm, 1550nm)					•	•
<b>PROTOCOLS</b>						
ModBus (RTU)			•	•	•	•
ModBus (TCP/IP)					•	•
DNP 3.0			•	•	•	•
IEC60870-5-103		(converter)	•	•	•	•
IEC60870-5-104					•	•
IEEE 1588					•	•
IEC61850		•	•	•	•	•
IEC62439 / PRP &HSR		•	•	•	PRP only	PRP only
Simple Network Time Protocol (SNTP)		•	•	•	•	•
HTTP					•	•
TFTP					•	•
Process Bus (IEC 61850-9-2)		P741/P743	(1B)		(with HF)	(with HF)

\* High impedance bus differential is available when applying the Multilin B30 with the Multilin HID module.



For the most up-to-date selector guides, please visit [GEGridSolutions.com/SelectorGuides](http://GEGridSolutions.com/SelectorGuides)

# High Impedance Bus Differential – Selector Guide

Features	Device	P14X	MCAG/MVTP	MFAC/MVTP	MIB
<b>APPLICATIONS</b>					
Busbars with up to # circuits (centralized)					
Busbars with up to # circuits (distributed)					
High impedance Bus differential		•	•	•	•
<b>PROTECTION &amp; CONTROL</b>					
Number of Differential Protection Zones		1	1	1	1
Check Zones					
Typical Operating Time (cycles)		<1.5	<1.5	<1.5	<1.5
Bus differential	87B	•	•	•	•
IOC, Ground/Phase	50G/P	•			•
TOC, Ground/Phase	51G/P	•			
Overvoltage Auxiliary/Neutral	59X/N	•			
Phase Undervoltage	27P	•			
Current Transformer Supervision					
Sensitive Overvoltage (Buswire Supervision)		•	•	•	
Breaker Failure	50BF	•			
End Fault Protection					
Lockout Functionality	86	•			
Dynamic Bus Replica					
Graphical Display with Bay Control & Monitoring					
<b>AUTOMATION</b>					
Programmable Logic		•			•
FlexElements™					
Watchdog/Critical Failure Self-Test Monitoring		•			
Settings Groups		4			2
Non-volatile latches (including contact latches) (max)		•			
Contact Inputs Programmable - (max)		40			4
Contact Outputs Programmable - (max)		32			4
Contact Outputs non programmable			2	2	
Direct Inputs - (max)					
Direct Outputs - (max)					
GOOSE Inputs / Remote Inputs (up to)		128			
GOOSE Outputs / Remote Outputs (up to)		32			
User-Programmable LEDs (max)		18			4
User-definable mimic, metering, and annunciator					
User-Programmable Push Buttons (max)		10			
User Definable Displays					
User Programmable Self-Test Contact		•			
Timers		•			•
Selector Switch					
Digital Counters					
Digital Elements					
IRIG-B Input		•			

Features Continued	Device	P14X	MCAG/MVTP	MFAC/MVTP	MIB
<b>MONITORING &amp; METERING</b>					
Current		•			•
Voltage		•			
Symmetrical Components		•			
Power - Apparent , Real, Reactive		•			
Energy		•			
Power Factor		•			
Frequency		•			
Event Recorder - Number of Events		512			24
Oscillography		•			•
Trip/Close Coil Supervision		•			•
<b>COMMUNICATIONS</b>					
Front Port Local Access		•			•
RS232 Port		•			•
RS485 Port		•			•
Ethernet Port (Fiber and Copper, max)		2			
Direct Fiber (800nm, 1330nm, 1550nm)					
<b>PROTOCOLS</b>					
ModBus (RTU)		•			•
ModBus (TCP/IP)					
DNP 3.0		•			
IEC60870-5-103		•			
IEC60870-5-104					
IEEE 1588		•			
IEC61850		•			
IEC62439 / PRP &HSR		•			
Simple Network Time Protocol (SNTP)		•			
HTTP					
TFTP					
Process Bus (IEC 61850-9-2)					

\* High impedance bus differential is available when applying the Multilin B30 with the Multilin HID module.



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