VALIANT COMMUNICATIONS

VCL-TP-1531-PMX

Protection Relay I/O Multiplexer

Product Overview:

VCL-TP-1531-PMX, is designed to multiply the Binary Output Commands of a Sub-station Protection Relay to connect additional devices such as Teleprotection Equipment, Circuit Breakers, Bay-Control Units etc.

The VCL-TP-1531-PMX provides up to 4 x Binary Command Inputs and up to 16 x Binary Command Outputs in which any input can be mapped to any output / or multiple outputs. All inputs have individually programmable glitch filters (command rejection) ranging from 0.5ms to 5ms to reject spurious input commands. All outputs have individually programmable pulse-widths ranging from 0.5ms to 1000ms, which may be programmed by the user on a per channel basis to ensure complete customization to meet diverse sub-station requirements.

The VCL-TP-1531-PMX is a ruggedized, sub-station hardened, industrial grade unit which makes it suitable for installation in critical infrastructures like oil, gas or electric utilities.

Flexibility and User Programmability:

- User programmable input sampling time
- User programmable output pulse width / relay deactivation time

Operations and Maintenance Interfaces:

- USB serial interfaces for local terminal access
- SNMPv2 and SNMPv3 support
- Secure remote management using SSH.

Reliability:

- High Quality Relays – withstand voltage 10 kV between coil and contacts (1.2× 50 µþs)
- Maximum Switching Voltage: 400V AC or 300V DC
- Optoisolated Inputs
- Optoisolated Relay Outputs
- Relays compliant with IEC-255-0-20 / VDE 0435, 0631, 0700, 40013847 standards
- Relays - Mechanical: 10,000,000 operations min. (at 18,000 operations/hour).

Features and Benefits:

- Unrivalled Speed, Security and Reliability
- Allows the user to connect any *input* to any *output / or multiple outputs*
- Default configuration: 1:4, input to output multiplication
- User programmable input sampling time
- User programmable output pulse width / relay deactivation time
- Compact, 1U, 19-Inch rack-mountable chassis
- High Quality Relays – withstands voltage 10 kV between coil and contacts (1.2× 50 þs)
- Optoisolated Command Inputs
- Optoisolated Relay Outputs
- Relays compliant with IEC-255-0-20 / VDE 0435, 0631, 0700, 40013847 standards
- Relays - Mechanical: 10,000,000 operations min. (at 18,000 operations/hour)
- Dual, 1+1, redundant power supplies
- Available with 48V DC, 110V DC, 220V DC, 250V DC, 110V AC and 240V AC power supply options
- Local USB management
- Secure remote management using SSH
- SNMPv2 and SNMPv3 support
- Easy Installation and Management.

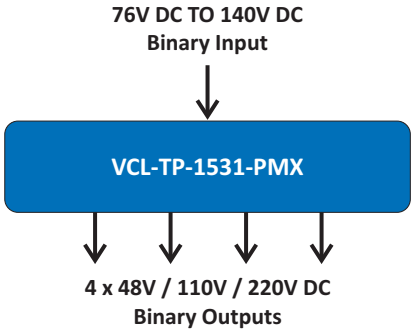
Configuration and Access Command Language:

- Command Line Interface (English text commands)
- Graphical User Interface (GUI).

Physical Dimensions:

- Standard 19-inch rack mount
- D x W x H: 305mm x 483mm x 44mm
- Weight: 3.5 Kgs

Block Level Diagram in a 1:4 Default Configuration Mode:



Technical Specifications:

S No.	Description	Option#1	Option#2	Option#3
1.	Input Command Voltage Options	48V DC	110V DC	220V DC
2.	Number of Binary inputs	4	4	4
3.	Number of Binary outputs	16	16	16
4.	Default Input / Output Command Multiplexing Ratio	1:4	1:4	1:4
5.	Minimum Operating Input Command Voltage	41V DC	76V DC	172V DC
6.	Maximum Operating Input Command Voltage	72V DC	140V DC	290V DC
7.	Input Command Sense Off Voltage	<25V DC	<60V DC	<140V DC
8.	Consumption on a digital input (W)	≤ 5mA, 0.24W	≤ 5mA, 0.55W	≤ 5mA, 1.1W
9.	Maximum Output Command Switching Voltage	400V AC or 300V DC	400V AC or 300V DC	400V AC or 300V DC
10.	Output Closing Ability (W/VA)	91W/ 1,000VA	91W/ 1,000VA	91W/ 1,000VA
11.	Output Short time current (0.5 sec.)	20A	20A	20A
12.	Output Crossing a continuous-current (A)	5A	5A	5A
13.	Output Maximum breaking current at 220V DC	8A	8A	8A
14.	Surge protection arrestor module	Built-in/Integrated, MOVB Protected@> 350 V DC		

Power Supply Options:

- 48V DC, range 36V DC~70V DC
- 110V DC/ 125V DC, range 80V DC~140V DC
- 220V DC/ 250V DC, range 80V DC~290V DC
- 110V AC / 220V AC, range 80V AC ~264V AC
- Voltage Withstand: Meets and exceeds IEC 834-1 and IEC 255 requirements
- Dual / redundant power supply inputs and power supplies are also offered as an option
- Short circuit protection
- Reverse power input protection.

Power Consumption:

- <20 Watts.

Compliance/Regulatory:

- RoHS
- Meets CE requirements
- Complies to IEEE and IEC standards
- Complies with FCC Part 68 and EMC FCC Part 15 and CISPR 22 Class B
- Operation ETS 300 019 Class 3.2
- Storage ETS 300 019 Class 1.2
- Transportation ETS 300 019 Class 2.3

Other Regulatory Compliance:

- CE
- Complies with FCC Part 68 and EMC FCC Part 15

Electromagnetic Standard Compliance:

- EN 50081-2 EN 50082-2,
- IEC 61000-6-2 (immunity)
- IEC 610000-6-4 (emission)

Environmental:

Operating Temperature	(-20°C to +60°C)
Maximum Operating Humidity	95% R.H., non-condensing
Maximum Operating Altitude	Up to 3,000 meters above sea Level
Operation	Complies with ETS 300 019 Class 3.2
Storage Temperature	-40°C to +70°C
Storage	Complies with ETS 300 019 Class 1.2
Maximum Storage Humidity	98% R.H., non-condensing
Maximum Storage	Up to 3,000 meters above sea level Altitude
Transportation	Complies with ETS 300 019 Class 2.3

EMI, EMC, Surge Withstand and other Compliances:

EN 50081-2	EN 50082-2	IEC 60068-2-29
IEC 61000-4-6 (Conducted Immunity)	IEC 60068-2-1	IEC 60068-2-2
IEC 60068-2-78	IEC 60068-2-14	IEC 60870-2-1
CISPR 32 / EN55032 Class A (Conducted Emission and Radiated Emission)		
IS 9000 (Part II Sec. 1-4, Part III Sec. 1-5, Part IV, Part 14 Sec. 1-3)		
IEC 61000-4-4	IEC 61000-4-5	IEC 61000-4-8
IEC 61000-4-3 (Radiated Immunity)		IEC 61000-4-2

Ordering Information:

Part#	Description
VCL-TP-1531-PMX	VCL-TP Protection Relay I/O Multiplexer 19 Inch 1U High Rack Mount **Add Power supply option**

Add Power Supply Options (Any Two Options)

Part #	Description
DC048	1 x 48V DC Power Supply Input
DC110	1 x 80V~140V DC Power Supply Input
DC220	1 x 110V~290V DC Power Supply Input
AC220	1 x 80V~264V AC Power Supply Input
DC048-2	2 x 48V DC Power Supply Input
DC110-2	2 x 80V~140V DC Power Supply Input
DC220-2	2 x 110V~290V DC Power Supply Input
AC220-2	2 x 80V~264V AC Power Supply Input

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