

## VCL-W-KLOX High Reliability Time Display Unit

### Product Overview

Valiant's VCL-W-KLOX is a high precision digital clock that offers un-matched reliability, dependability and security that is not commonly found in similar competing products. The VCL-W-KLOX is available with a very wide range of interface options that include NTP (Ethernet LAN), Optical as well as Electrical Ethernet Interfaces to cater to a host of applications to display time information with various levels of accuracy according to customer requirements.

The VCL-W-KLOX is a temperature hardened design with industrial grade EMI, EMC and surge protection provided on all interfaces making it suitable for installing in the harshest industrial or commercial environments that may include sub-stations, mines, defense installations, airports, railway, metro stations as well as industrial establishments.

The VCL-W-KLOX is available with 2-Inch (57mm), 4-Inch (100mm) and 8-Inch (200mm) digits and its 7-segment display consists of high luminance LEDs that offer excellent readability (up to 40 m distance for the 4-Inch display and up to 80 m distance for the 8-Inch display).

### Features, Highlights and Options:

- Uses external NTP source for Accurate time
- LED Status Indicator. High Power LED Alarm to indicate loss of synchronization with the Master Clock.
- Uses standard Ethernet wiring, RJ-45 Connector
- Optional PoE (Power Over Ethernet)
- 2-Inch (57mm), 4-Inch (100mm) and 8-Inch (200mm) high luminance digit displays
- Adjustable Brightness through DIP Switch
- Non-corrosive aluminum housing, powder Coated in black RAL 9005
- May be configured by the user to display time In either 12 or 24 hour time format)



**VCL-W-KLOX - Front View - Four Digit**

- Four-digit (HH:MM) or six-digit (HH:MM:SS) format options
- Single-sided and double sided display options
- Alternating display of time, date with adjustable time period
- May be configured by the user to display UTC time, Local Time or World Time
- Wall mounting, ceiling suspension or wall bracket mounting
- Dual 10/100BaseT Ethernet Ports for looping multiple clocks in a network.

### Security and Management:

- USB and 10/100BaseT Management Interfaces
- Remote Management over an IP network
- Unmatched Security. Password Protected Management Interface
- Separate VLANs for NTP and Management
- Separate IP Addresses for NTP and Management Interfaces.

### Readability and Color Options:

- Up to 20 m distance for the 2-Inch (57mm) display
- Up to 40 m distance for the 4-Inch (100mm) display
- Up to 80 m distance for the 8-Inch (200mm) display
- Four-digit (HH:MM) Display or six-digit (HH:MM:SS)
- Display Options: 7 Segment - Red  
Dot Matrix - Red / Yellow / White

### Environmental:

- Temperature
  - Operating Range: -20°C to +65°C
  - Storage: -40°C to +75°C
- Humidity 0-95% (without condensation)
- Altitude: Up to 3000 meters
- Industrial Hardened Design. Non-corrosive chassis.
- Conducted Immunity as per IEC 61000-4-6
- Radiated Immunity IEC 61000-4-3
- Meets and exceeds CISPR 22 / En55022 Class B Emission requirements
- Voltage and Surge Withstand: Meets and exceeds IEC 61000-4-2, IEC 61000-4-4, IEC 61000-4-5 Specifications.
- Immunity to Voltage Dips, Short Power Supply Interruptions and Voltage variations meets and Exceeds IEC 61000-4-11 specifications.
- Protection: IP 30

### Reliability and Accuracy:

- May be provisioned for installing with 1+1 Redundant NTP Servers. The VCL-W-KLOX shall automatically fallback to the Standby NTP Server if the Primary NTP Server becomes un-available.
- High Stability Oscillator for standalone operation (in the event of the un-availability of the external time source).
- The clock drift is less than  $\pm 0.1$  second in a 24 hour time-period in the absence of remote / NTP Synchronization.
- Extremely high clock accuracy.
  - Up to 1ms with NTP synchronization option (depending upon the network).

### Description: VCL-W-KLOX, Digital Display Clock

- Display LED: Red, White and Yellow
- Display HH:MM or HH:MM:SS (optional)
- Height of figures: 57mm, 100mm, 200mm (Optional)
- Version: NTP Ethernet, RJ-45, 10/100BaseT Clock
- Remote Management over TCP-IP Network
- Anodized Aluminum case. IP30.
- Power supply 230 VAC/50-60Hz
- Lexan anti-reflective front panel
- Tropicalized electronics board
- Alternate display of time and date

### MTBF (Mean Time Between Failure)

Per MIL-HDBK-217F:  $\geq 16$  years @ 40°C  
Per Telcordia SSR 332, Issue 1:  $\geq 19$  years @ 40°C

### Power Supply Options:

- 48V DC
- 90V AC-240V AC
- 110V DC
- PoE

### Standards / Approvals:

- CE, FCC, IEC

## Ordering Information

### High Reliability Time Digital Display Clock

S. No.	Part #	Product Description
1	VCL-KLOX-2106-04	High Reliability Time Digital Display Clock Supports: - Four-digit (HH:MM) format - Management : Remote Management over TCP-IP Network - Installation Kit : System Core Cables, Mounting Hardware, Documentation, User Manual
2	VCL-KLOX-2106-06	High Reliability Time Digital Display Clock Supports: - Six-digit (HH:MM:SS) format - Management : Remote Management over TCP-IP Network - Installation Kit : System Core Cables, Mounting Hardware, Documentation, User Manual

### Add Seven Segment / Dot Matrix Option

S. No.	Part #	Product Description
1	01-SS-R057	Single Sided, Seven Segment, RED LED, Digit Height 57mm
2	02-SS-R057	Double Sided, Seven Segment, RED LED, Digit Height 57mm
3	01-SS-R100	Single Sided, Seven Segment, RED LED, Digit Height 100mm
4	02-SS-R100	Double Sided, Seven Segment, RED LED, Digit Height 100mm
5	01-SS-R200	Single Sided, Seven Segment, RED LED, Digit Height 200mm
6	02-SS-R200	Double Sided, Seven Segment, RED LED, Digit Height 200mm
7	01-DM-R200	Single Sided, Dot Matrix, RED LED, Digit Height 200mm
8	02-DM-R200	Double Sided, Dot Matrix, RED LED, Digit Height 200mm
9	01-DM-W200	Single Sided, Dot Matrix, WHITE LED, Digit Height 200mm
10	02-DM-W200	Double Sided, Dot Matrix, WHITE LED, Digit Height 200mm
11	01-DM-Y200	Single Sided, Dot Matrix, YELLOW LED, Digit Height 200mm
12	02-DM-W200	Double Sided, Dot Matrix, YELLOW LED, Digit Height 200mm

### Add Power Supply Option

S. No.	Part #	Product Description
1	AC220	1 x 100-240V AC Power Supply Input

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U.K.

Valiant Communications (UK) Ltd  
1, Acton Hill Mews, 310-328 Uxbridge Road,  
London W3 9QN  
United Kingdom

E-mail: gb@valiantcom.com

U.S.A.

Valcomm Technologies Inc.  
4000 Ponce de Leon, Suite 470 Coral Gables,  
FL 33146  
U.S.A.

E-mail: us@valiantcom.com

INDIA

Valiant Communications Limited  
71/1, Shivaji Marg,  
New Delhi - 110015,  
India

E-mail: mail@valiantcom.com