KollectorPro XG

16-Channel Digital Video Recording Systems

- **Powered by ViconNet software Version 3**
- **Next Generation "XG" look fits into today's style**
- **Graphical Map feature supports realistic camera location**
- **Models available with up to 1.2 TB internal HD space**
- **Maximum recording rate of 240 fps automatically optimized for maximum recording rate per channel**
- **Hybrid proprietary compression based on MPEG4**
- **Museum Search (Smart Search) feature scans hours of video in minutes**
- **Video Motion Detection uses "Region of Interest" feature to enable alarms triggered by motion**
- **16 alarm inputs (NO or NC) and 8 relay alarm outputs (dry contact)**
- **Optional 16 x 4 analog video matrix on the rear panel controlled by the software locally and over the network**
- **Archive segments of video to a CD-R/CD-RW/DVD with viewer for playback on a standard PC**
- **Maximum resolution of 480 TV lines @ 720 x 488 (576 TVL @ 864 x 586 PAL) pixel capture without loss of video quality**
- **Simultaneous record, playback and transmission of up to 16 digital video channels (audio on optional "V" versions)**
- **Macros are used for programming recording, alarm and display events**
- **Remote setup from any Kollector Pro or workstation**
- **16 individual RS-422 ports for PTZ/Dome Control - no need for a distribution unit**
- **Built-in GUI provides quick setup of live view and playback video without affecting recording**

Kollector Pro XG is a 16-channel digital video recorder powered by the ViconNet software platform. This platform allows each Kollector Pro recorder to record video (audio on "V" versions) from its local analog inputs and make available its video and audio over the network to other recorders and IP cameras, workstations and servers.

ViconNet also powers each Kollector Pro recorder with the ability to perform local configuration of the recorder, cameras and other connected devices. Remote configuration of Kollector Pro is also possible from one or more Kollector Elite units or workstations on the system; no separate workstation required.

ViconNet software is the application that runs Kollector Pro recorders and ViconNet Workstations (see specification V113). The software capabilities outlined in specification V113 apply to Kollector Pro Recorders as well as the ViconNet software package and workstation. ViconNet includes a nucleus where vital information of all system recorders and workstations is kept.

A Nucleus is one of the workstations (NVRs) or Kollector units in a system that enables each system device to share video and configuration commands. The Nucleus can be configured on a specified Kollector recorder or ViconNet Workstation. Backup versions of the Nucleus can also be configured on selected recorders or workstations.

Kollector Pro utilizes two different video compression methods, selectable based on the application's requirements.

- NORMAL: Optimized MPEG4; a proprietary compression algorithm developed by Vicon that produces outstanding video quality and extended recording durations.
- FULL: JPEG; standard full frame compression for use in situations that cannot use a motion compensation compression.

Kollector Pro uses an MD5 type video authentication algorithm. MD5 is a standard authentication that is based on a 128-bit message used to verify data integrity.

Kollector Pro offers internal hard drive storage up to 1.2 TB. It has a recording rate based on system settings, video scene content and selected hard drive size. An optional RAID storage unit can be connected for extended recording capability. Refer to Table 3 for recording days data.

Kollector Pro distributes its own collected video (audio on "V" versions) to each client, or other workstation, upon request over a network. Each workstation is capable of viewing up to 16 simultaneous cameras while supporting archiving, system configuration and the control of pan/tilt/zoom drives. (16 audio inputs on "V" versions are available for microphone connection.)

Kollector Pro includes full 16-channel simultaneous record and playback, integrated GUI for system configuration, playback and record on a SVGA monitor and support for NTSC/EIA and PAL/CCIR video cameras. In addition, Kollector Pro supports WAN/Internet connectivity for remote video (audio on "V" versions) transmission.

The Kollector Pro GUI offers complete configuration and control of the local video inputs. The Main Window provides a multi-channel display area containing up to 16 connected cameras and microphones. An optional map can be added with actual camera locations, making camera selection simple. The Main Window contains the necessary controls to operate and setup the system. The login window requires a preconfigured User Name and Password for access.

The site/device tree allows a user to view and activate locally connected cameras, PTZ cameras and microphones (on "V" versions). The display controls allow a user to set the image quality.

The Navigator Window allows many of the same features of the Main Window for system playback functions.

The software platform offers features unequalled by other recorders. These features include:

Playback Utility with Multi-Screen Display Selection, AVI Creation, Museum Search, and Archiving
The Playback utility features a multi-screen display where cameras can be dragged-and-dropped for display.

The Museum Search button can be selected for a single camera where an accelerated search of the video within a user selected ROI (Region of Interest). The ROI uses a custom block-grid tool with a full set of pencil and erase tools. The number, and detection threshold, of the blocks will trigger a "minimum detection" area where the video is earmarked with a time/date stamp. These "episodes" can be viewed, selected and played back and saved as needed.

The Archiving Utility allows the saving of this selected video to the storage location of your choice. The video can be saved to any local or remote storage location, including CD-RW drives, recognized by the system.

Quick Playback
The Quick Playback feature allows instantaneous playback of any currently recording, live-view window of a local camera.

When that screen is selected, there are 2 options; display of the camera information or selection of 7 playback interval from 10 seconds to 30 minutes. When selected, the playback video is displayed in an adjacent window and the recording for all cameras is unaffected.

The user can also choose "Playback from…" and specify the exact date, time and database to play the camera from. In both options, the live view remains viewable.

Kollector Pro is housed in an industrial-hardened case with all connections made from the back panel. It has a universal power supply that can accept 110 - 240 VAC.

Vicon requires the use of uninterruptible power supply systems (UPS) to prevent voltage fluctuations that can affect operation, cause video loss and cause damage to the equipment. Failure to comply voids the warranty.

ASSOCIATED EQUIPMENT AND ACCESSORIES

Kollector Elite Digital Video Recorder, Product Code varies by model: 16-channel networked digital video recorder for use with Kollector Pro series recorders and ViconNet VN1000V3/VN-NVR Workstations. Product Specification V112.

ViconNet VN1000V3 Master Workstation Software, Product Code 8797: Software CD for a PC for use with Kollector Elite and Pro series recorders; registration required for use. Product Specification V113.

ViconNet VN-NVR Master Workstation, Product Code 8961/8962: PC preloaded with VN1000V3 Master Control Software for use with Kollector Elite and Pro series recorders; registration required for use. Product Specification V113.

Model VN-MON Monitor, Product Code 8222: 17-inch VGA monitor for use with Kollector Elite and Pro series recorders and ViconNet VN-NVR systems.

Model VN-17FLT Monitor, Product Code 8237: 17-inch flat-screen monitor for use with Kollector Elite and Pro series recorders and ViconNet VN-NVR systems. Product Specification V127.

Model NETSWITCH-8 Network Switch, Product Code 7787: 8 port, 10/100 autosensing network switch, stackable.

NETSWITCH-16 Network Switch, Product Code 8495: 16-port, 10/100 autosensing network switch, stackable. Product Specification V161.

NETSWITCH-24 Network Switch, Product Code 8495-10: 16-port, 10/100 autosensing network switch, stackable. Product Specification V162.

Uninterruptible Power Supplies: 725, 1000, and 3000 VA units with DB9 (RS-232) and USB ports; 120 VAC input/output. Product Specification V147.

Model VN-RAIDA ViconNet/Kollector RAID Storage Systems: Various RAID size storage system for use with Kollector Elite and Pro series recorders; Product Specification V133-10.

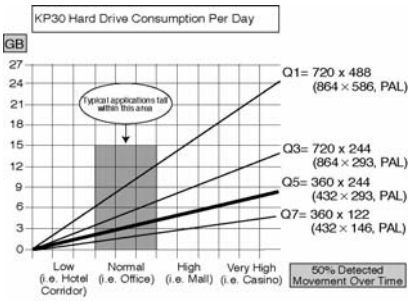
KPX30-320	8986-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 30 fps, 320 GB HD, NTSC/EIA and PAL/CCIR
KPX30-500	8904-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 30 fps, 500 GB HD, NTSC/EIA and PAL/CCIR
KPX60-250	8908-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 60 fps, 250 GB HD, NTSC/EIA and PAL/CCIR
KPX60-400	8988-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 60 fps, 400 GB HD, NTSC/EIA and PAL/CCIR
KPX60-660	8912-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 60 fps, 660 GB HD, NTSC/EIA and PAL/CCIR
KPX120-250	8916-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 120 fps, 250 GB HD, NTSC/EIA and PAL/CCIR
KPX120-500	8990-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 120 fps, 500 GB HD, NTSC/EIA and PAL/CCIR
KPX120-900	8920-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 120 fps, 900 GB HD, NTSC/EIA and PAL/CCIR
KPX120-1200	8924-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 120 fps, 1.2 TB HD, NTSC/EIA and PAL/CCIR
KPX240-320	8928-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 240 fps, 320 GB HD, NTSC/EIA and PAL/CCIR
KPX240-660	8992-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 240 fps, 660 GB HD, NTSC/EIA and PAL/CCIR
KPX240-900	8932-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 240 fps, 900 GB HD, NTSC/EIA and PAL/CCIR
KPX240-1200	8936-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 240 fps, 1.2 TB HD, NTSC/EIA and PAL/CCIR
Matrix Models		
KPX30M-160	8902-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 30 fps, 160 GB HD, NTSC/EIA and PAL/CCIR
KPX30M-320	8985-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 30 fps, 320 GB HD, NTSC/EIA and PAL/CCIR
KPX30M-500	8906-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 30 fps, 500 GB HD, NTSC/EIA and PAL/CCIR
KPX60M-250	8910-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 60 fps, 250 GB HD, NTSC/EIA and PAL/CCIR
KPX60M-400	8987-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 60 fps, 400 GB HD, NTSC/EIA and PAL/CCIR
KPX60M-660	8914-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 60 fps, 660 GB HD, NTSC/EIA and PAL/CCIR
KPX120M-250	8918-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 120 fps, 250 GB HD, NTSC/EIA and PAL/CCIR
KPX120M-500	8989-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 120 fps, 500 GB HD, NTSC/EIA and PAL/CCIR
KPX120M-900	8922-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 120 fps, 900 GB HD, NTSC/EIA and PAL/CCIR
KPX120M-1200	8926-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 120 fps, 1.2 TB HD, NTSC/EIA and PAL/CCIR
KPX240M-320	8930-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 240 fps, 320 GB HD, NTSC/EIA and PAL/CCIR
KPX240M-660	8991-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 240 fps, 660 GB HD, NTSC/EIA and PAL/CCIR
KPX240M-900	8934-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 240 fps, 900 GB HD, NTSC/EIA and PAL/CCIR
KPX240M-1200	8938-01	Kollector Pro XG Server, preloaded ViconNet ver 3; 16-channel networked digital video recorder, 16 x 4 analog video matrix, 240 fps, 1.2 TB HD, NTSC/EIA and PAL/CCIR

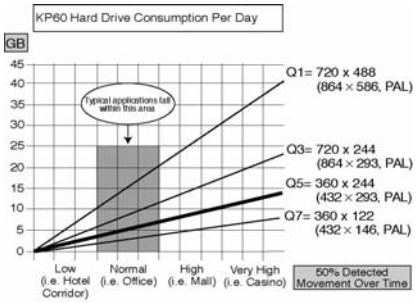
Note: All Kollector Pro DVRs can be ordered with audio capability. Speak to your Vicon Sales representative for details.

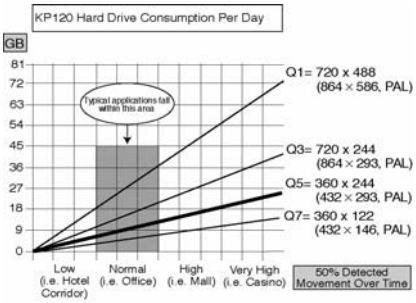
Table 1: Models, Product Codes and Descriptions

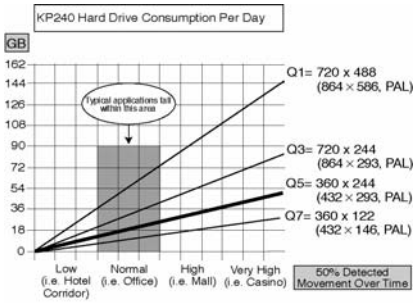
Compression Type	Resolution and Compression Rate							
	1 (Frame) 720 x 488 (864 x 586 PAL)	**2** (Frame) 720 x 488 (864 x 586 PAL)	**3** (Field) 720 x 244 (864 x 293 PAL)	**4** (Field) 720 x 244 (864 x 293 PAL)	**5** (CIF) 360 x 244 (432 x 293 PAL)	**6** (CIF) 360 x 244 (432 x 293 PAL)	**7** (HCIF) 360 x 122 (432 x 146 PAL)	**8** (HCIF) 360 x 122 (432 x 146 PAL)
	High	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**
FULL (JPEG)	Largest Picture Best Quality Full Refresh	Largest Picture Excellent Quality Full Refresh	Large Picture Very Good Quality Full Refresh	Large Picture Good Quality Full Refresh	Medium Picture Average Quality Full Refresh	Medium Picture Fair Quality Full Refresh	Small Picture Low Quality Full Refresh	Small Picture Very Low Quality Full Refresh
NORMAL (MPEG4)	Largest Picture Best Quality Periodic Refresh	Largest Picture Excellent Quality Periodic Refresh	Large Picture Very Good Quality Periodic Refresh	Large Picture Good Quality Periodic Refresh	Medium Picture Average Quality Periodic Refresh	Medium Picture Fair Quality Periodic Refresh	Small Picture Low Quality Periodic Refresh	Small Picture Very Low Quality Periodic Refresh

Table 2: Kollector Pro Video Quality









Model	Internal HDD Size (GB)	With VN-RAIDA-8-250		With VN-RAIDA-16-250	
		Effective RAID HDD Size (GB)	Approximate Days Recording	Effective RAID HDD Size (GB)	Approximate Days Recording
KPX30-160	160*	1750	30	3750	33
KPX60-250	250*	1750	60	3750	65
KPX120-250	250*	1750	120	3750	130
KPX240-320	320*	1750	60	3750	65

Note: This table is based on the following conditions:
- 24 hours normal activity with 50% detected movement over time, Normal compression and Quality Q5 (360 x 244 pixels NTSC, 432 x 293 pixels PAL) - Recording durations may vary based on actual scene activity.
- Recording data does not include audio data (0.4 GB/12 hour day/microphone.
** 20 GB of space is used for the application.*

Note: When a RAID is available, it is recommended to have all the database on the RAID drives and not on the Kollector drives (use the minimal internal drive size). This will ensure the highest level of protecftion for the data.

Table 3: Sample Recording Time on Kollector with RAID (RAIDs are available in different sizes)

ELECTRICAL

Input Voltage: 120 – 230 VAC +/- 10%, 50/60 Hz nominal.
Note: Vicon requires the use of uninterruptible power supply systems (UPS) to prevent voltage fluctuations that can affect operation and cause damage to the equipment. Failure to comply voids the warranty.

Current: 3 A.

Power Consumption: **KPX30 and KPX60:** 400 W nominal.
KPX120 and KPX240: 450 W nominal.

Heat Equivalent: **KPX30 and KPX60:** 22.75 btu/min (5.7 kg-cal/min).
KPX120 and KXP240: 25.6 btu/min (6.4 kg-cal/min).
Note: These figures represent the conversion of 100% of the electrical energy to heat. Actual percentage of the heat generated will be less and will vary from product to product. These figures are provided as an aid in determining the extent of cooling required for an installation.

System: **CPU:** Intel® Celeron® 1.8 MHz minimum, for 30 and 60 fps/system recorders. Pentium IV 2.66 MHz minimum, for 120 and 240 fps models.
RAM: 512 MB.
HDD: 200 – 1200 GB. Based on model. (See Table 1.)
LAN: Onboard 100/1000 Mbps interface.

Connector Types/ Quantities: **Analog Video Inputs:** 16 BNC-F.
Analog Video Loopouts: 16 in 2 DB-15 connectors.
Power: 1 standard 3-conductor female socket.
VGA Video Output: 1 standard VGA port.
Sensor Input Port: 16 NO/NC connectors, software selectable.
PTZ Control Port: 1 4-pin terminal block serial port using RS-422 protocol for all 16 channels. Also, 8 terminal block connections available (supports 16 Camera Domes using RS-485).
Network Port: RJ-45 jack, female.
Keyboard Port: 5-pin DIN jack (PS2).
Mouse Port: 5-pin DIN jack (PS2).
Optional Audio Input: 16 input connectors, software selectable and model dependant.
Peripheral Port: 2 USB ports used for connection of printers and other peripherals.
Optional 16 x 4 Matrix: Allows switching any of the local inputs to 4 local outputs. Switcher is controlled through software locally and over the network. Also can be controlled as part of a macro.

Video Level Input: 1.0 V peak-to-peak (140 IRE) nominal.
Luminance: 100 IRE +/- 15%.
Sync: 40 IRE +/- 15%.
Colorburst: 40 IRE +/- 15%.

Video Input Impedance: All BNC connectors: 75 ohms.

Video Formats Supported: NTSC, PAL, EIA and CCIR.

Video Recording Rate: 16 simultaneous channels @ 30, 60, 120 or 240 frames per second, maximum. 30 fps per channel, maximum.

Video Recording Resolution: 480 horizontal TV lines maximum at 720 x 488 pixel palette; 864 x 586, PAL.

Video Quality: Selectable using a 4-position bar, from the Main Screen. There are 4 levels of resolution (Frame, Field, CIF, HCIF) with 2 levels of compression (Normal, Full) comprising 8 quality levels total, accessible from the Setup menu selections. Normal is Optimized-MPEG4 and Full is JPEG compression, see Table 2.

(Audio specifications apply to "V" models only)

Audio Input: Microphone should be 0 dbm (2 V RMS - 1 V p-p) output, 32 KHz bandwidth, 600 ohm impedance.

Audio Sampling Rate: 8 KHz/sec/channel, uncompressed.

Audio Data Storage Rate: Approximately 0.4 GB/12-hour day/microphone.

CD-RW Drive: Internal CD-RW drive; optional DVD.

Camera to Recorder Analog Input Video Transmission Distance (coaxial cable distance): 1000 ft (305 m) nominal.

Alarm Input Type: Each alarm input is automatically configured as a normally opened (NO) or normally closed (NC) trigger.

Alarm Output: 8 relay outputs.

VGA Monitor Output: SVGA, True-Color Mode with a minimum resolution of 1024 x 768. Includes a secondary monitor output.

VGA Video Display Modes: Multi-screen Display Mode for both live and Video Playback of 1, 4, 6, 9, 16 cameras.

Panel Indicators: 1 red power LED used for HDD status indication.
1 green LED used for power indication.

Panel Key Lock: Key lock provided on front panel to secure all controls.

SOFTWARE OPERATION

Main Window Screen: A multi-channel display area containing up to 16 connected cameras and microphones, all necessary controls to operate and setup the system.

Graphical Map: Supports realistic camera location.

Site and Device Tree: A physical list of all locally connected cameras, PTZ cameras, and microphones.

Quick Playback: Start video playback of live camera with a few clicks.

Play from Time: Call up images from any database on the network from Main Screen.

Navigator Window: A graphical display of recorded video. It contains a set of function buttons used to access the video on-screen.

Control Dialog Display Area: A space to work in conjunction with the Other Controls Area.

Toolbar: An area providing access to all major functionality of the system.

Function Control Area: A palette of controls used to enable or disable the video recording as well as any currently running macros in the system.

Video Display Controls Area: A palette of buttons used to set the picture quality and resolution of the recorded and networked video. A 4-position bar allows the quality setting.

Other Controls Area: A palette of buttons that activate when a valid device is selected from the Site and Device Tree.

System Configuration: A Main Settings Menu used for setup of devices, authorization and all other system functions.

Network and Sites Configuration: The network portion of this feature allows setup of all IP address information and a system Nucleus and Backup Nucleus.

Macro Configuration: Macros can be defined for recorded or displayed cameras, microphones, and related devices (sensors).

Device Configuration: Devices can be configured for system recognition and operation.

Authorization Rights Setup: Group rights can be configured by specific site. Rights provide authority to perform all system functions.

Alarm Configuration: Alarms can be programmed to annunciate under special conditions.

Storage Database Utilities: This utility allows setup and usage of detected hard disks locally.

Authentication: Video authentication is established by site and affects display of destination video.

Macro Function: System can be setup to perform routines of record and playback and alarm in a dedicated screen setup menu.

Log Reporting: Continuously running activity log.

Schedule Function: System can be set to record and display a video “tour” of multiple channels.

Central Failure Notification (CFN): Sends notifications indicating certain applications have failed.

Recording Verification System (RVS): Ensures continuous recording by notifying any recording errors.

Product Specification

MECHANICAL

Application: Indoor.
Mounting: Standard 19 in. (483 mm) rack mount and stackable, 4U height.

Dimensions: **Height (H):** 7.0 in. (178 mm).
Width (W): 19.0 in. (483 mm).
Depth (D) 120 fps: 22.0 in. (559 mm).
240 fps: 24.25 in. (616 mm). See Figure.
Note: Dimensions exclude connectors and rack mount handles.

Weight: 50.0 lb (22.6 kg), approximately.

Construction: Steel case and hardware.

Color: Black.

Shipping Dimensions: **Length:** 28.5 in. (723 mm).
Width: 24 in. (610 mm).
Height: 12 in. (305 mm).

Shipping Weight: 63 lb (28.5 kg), approximately.

Shipping Volume: 4.75 ft^3 (0.13 m^3).

ENVIRONMENTAL

Unit Operating Temperature Range: 32 to 104° F (0 to 40° C).

Unit Operating Humidity Range: 0 to 95% relative, non-condensing.

Ideal Room Temperature Range: 66 to 75° F (19 to 25° C).

Ideal Room Humidity Range: 80% relative, non-condensing.

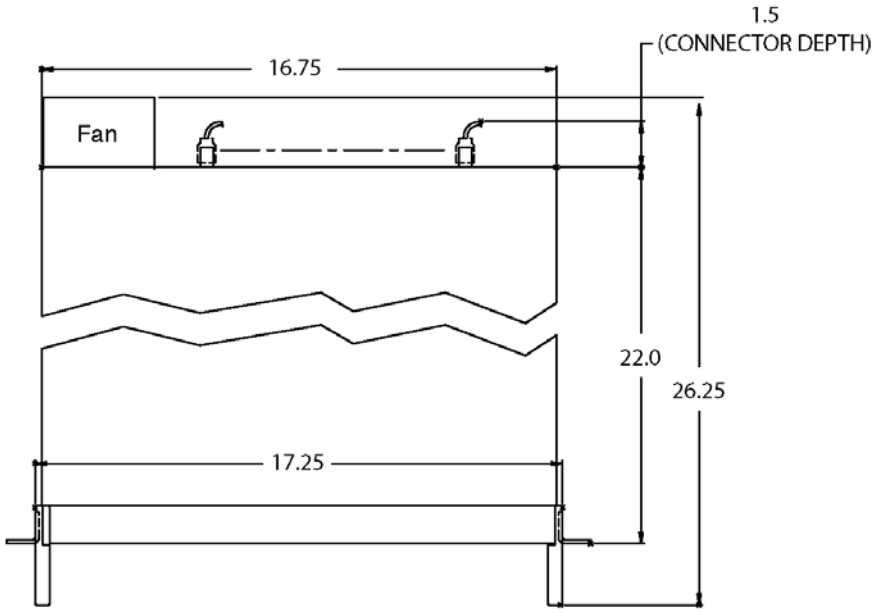
Maximum Room Temperature Range: 50 - 86˚F (10 - 30˚C).

Storage Temperature Range: -4 to 158° F (-20 to 70° C).

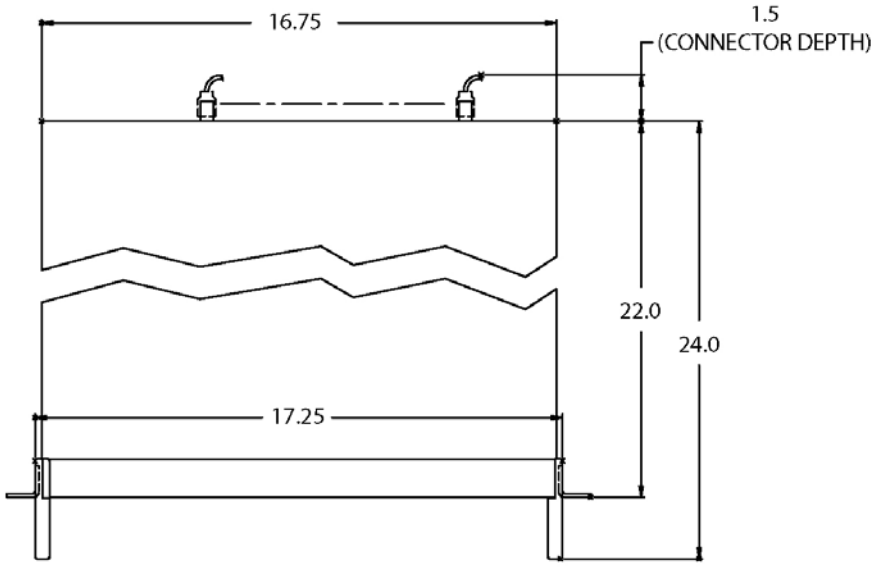
Storage Humidity Range: 0 to 95% relative, non-condensing.

Vibration: Tested to ISTA Standard Procedure 1A, dated April 1995, Section B, Method A.

KOLLECTOR PRO-XG
(240 models)



KOLLECTOR PRO-XG



KOLLECTOR PRO-XG