HEADEND

AGILE-CORE™
Distributed Edge Architecture

PROJECT:	QTY:
TYPE:	CATALOG:

SYSTEM OVERVIEW

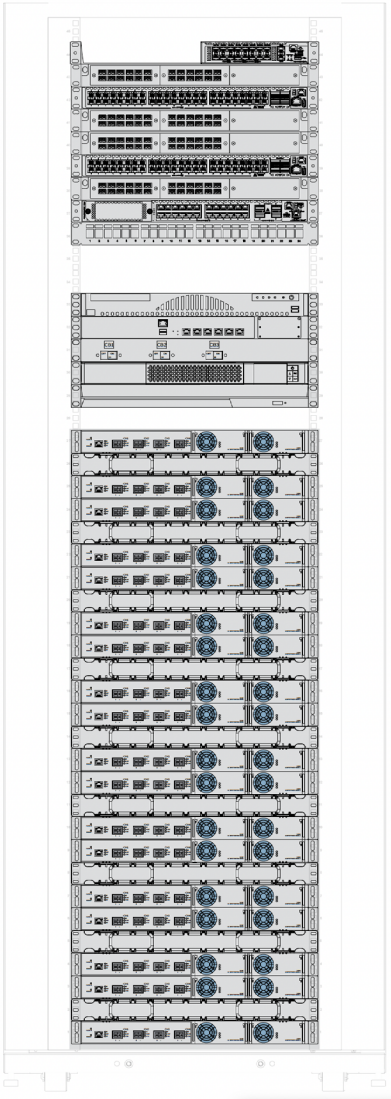
The AGILE-CORE™ Distributed Edge Architecture solution is an intelligent power distribution and control system that leverages safe DC power to provide the best IT and OT networks possible while reducing the total installed and operating cost of a project. AGILE-CORE™ is a hub and spoke architecture where AC or DC power is fed into the HEADEND then converted to safe DC power. The power is then converged with data over fiber to safely distribute power and data to Edge IDFs up to 2000' away. Edge IDFs then distribute power and data again locally to end points such as wireless access points, cameras, clocks, lighting, motion/daylight sensors, motorized shades, USB convenience outlets and more.

OVERVIEW

The HEADEND powers and interconnects remote BITS Edge IDFs. The HEADEND may reside in the Main Electrical Room, a Main Distribution Frame - telco room (MDF), or split between both. The HEADEND powers remote BITS Edge IDFs using thin gauge copper cable with Fault Managed Power (FMP). If a fault occurs on the line between the HEADEND and remote BITS Power Distribution Module (such as a person contacting the conductors), power is disconnected; reducing the risk of fire, equipment damage, and personal injury. Its transmission mechanism allows its copper cabling to be installed without metal conduit and shared in data communication pathways. Power and data cables are then combined within the AGILE-CORE™ hybrid copper and fiber cable to move power and data to the remote BITS Edge IDFs. Single Mode fiber (OS2) within the hybrid cable is run from the HEADEND's fiber patch panel with LC connectors to the remote BITS Edge IDFs fiber patch panel.

The HEADEND Power Conversion and Transmission utilizes Fault Managed Power (FMP). The FMP component is a limited energy product listed by a Nationally Recognized Testing Lab. The Transmitter is part of a listed Class 4 system. The circuit between the transmitter and receiver is a Fault Managed Power (FMP) circuit and should be installed as a Class 4 circuit according to NFPA 70 Article 726. The 1RU FMP transmitter chassis or shelf will receive up to (2) channels of FMP. Each FMP power channel provides 1500W of power.

One Network Aggregation switch provides connectivity for remote "satellite" HEADEND racks. One or more servers provide Lighting Control functionality. One or more servers provide network support, monitoring, logging, and diagnostic functionality. When integration to traditional building systems occurs, a server may be used to provide the integration and data exchange capability. When connected to the Internet for external monitoring, a firewall is an available option for the HEADEND.



FEATURES:

- Each transmitter shelf has up to two redundant hot swappable power supplies for increased resiliency
- HE PRIM Includes a KVM (keyboard, video, mouse) and servers
- Kitted for ease of assembly with UL and ETL listed components
- Works with normal and emergency lighting
- Supports 480V 3 Phase power eliminating the need for costly & space consuming step down transformers

APPLICATIONS:

- K-12 Schools
- Office Buildings
- Warehouse
- Manufacturing
- Data Centers
- Advanced Ed and more

HEADEND

ORDERING GUIDE:

Example Catalog # HE PRIM AT 1P/1 3P/2 24 B LT DW CM FWPA

HEADEND	Switch or OLT Brand	Single Phase 120VAC PDU Per Rack	/ QTY Per Rack	480Y/277 3-Phase 4-Wire PDU	/ QTY Per Rack	# of Transmitter Shelfs	Color	Options
HE PRIM primary **HE SEC*** secondary	**AT** Allied Telesis **CS** Cisco **TL** Tellabs	**1P**	**1**	**3P**	**1** **2**	**1-24****	**B** black	**LT** lighted interior **CM** cellular modem*** **FWFT** Fortinet Firewall*** **FWPA** Palo Alto Firewall***

HE PRIM always includes a server and KVM
HE PRIM always includes a core switch
HE PRIM always includes a fiber patch panel
* HE SEC does not include a server, KVM, core switch, or fiber patch panel
* HE SEC does not work on its own. It requires a HE PRIM primary rack to be deployed on the same site to function properly.
** HE PRIM racks support up to 18 transmitter shelves. HE SEC racks support up to 24 transmitter shelves.
***Not available with HE SEC

ACCESSORIES

Field installable, order as a separate catalog number

SP10BD10/I	Allied Telesis 10G (LC) single-mode SFP, I-Temp, 10 km
VTEVO-6-LED CAT6	Keystone jack 180° w/ LED indicator
VTEVO-6A-LED CAT6A	Keystone jack 180° w/ LED indicator
VTHT-0044-LED	Crimp tool
VT-0010-LEDPDT	Power Test Tool

AGILE-CORE™ CONNECTIVITY PLANS

order as a separate catalog number

Example: REMCONN CELL 24MO

SERIES	CONNECTION TYPE	SERVICE LENGTH
REMCONN	**ETH** Ethernet **CELL** cellular	**3MO** 3 month **6MO** 6 month **9MO** 9 month **12MO** 12 month **24MO** 24 month

Remote support via the AGILE-CORE™ solution is enabled through a connectivity plan (REMCONN). Purchase of an AGILE-CORE™ HEADEND includes an initial 12-month Ethernet connectivity plan that begins upon shipment of hardware from the factory. For extended periods of connectivity, or for cellular connectivity, supplementary plans can be purchased. Flexible plans are offered in 3-month to 24-month durations and can be purchased at any time.

SPECIFICATIONS

ELECTRICAL
3 PHASE POWER DISTRIBUTION UNIT(S)

Input Power:	One or Two 480Y/277V 3-Phase 4-Wire Power Distribution Units (PDU)
Input Connectors:	Hardwire Terminals (Lines up to 2/0, N & G up to 350MCM)
Max Input Power Per PDU:	92,160 W
Max Input Current:	384 A of single phase load, fed with 128A 3p phase
Output Power Voltage to Transmitter Shelves:	277VAC
Output Power Ports:	(24) L720-R
Output Protection Feature(s):	20A circuit breaker per outlet

ELECTRICAL
SINGLE PHASE POWER DISTRIBUTION UNIT

Input Power:	120V 1-Phase
Input Connectors:	NEMA L5-20P 20A/2P3W
Max Input Power Per PDU:	1.92 KW
Max Input Current:	16A
Output Power Voltage to Server(s):	120VAC
Output Power Ports:	12
Output Protection Feature(s):	(0) no breaker

ELECTRICAL
HEADEND TRANSMITTER SHELVES

Input Power Per Shelf:	100 to 277Vac (for full power operation, input voltage must be 208Vac or greater)
Max Current per Shelf:	16 A RMS per power module (Minimum circuit breaker size is 20 A per input connection)
Output Voltage:	315 - 350 Vdc FMP / Class 4 output
Total Power per shelf:	Up to 6 kW
Number of Output Channels Per Shelf:	4
Max Current per Channel:	4.68 A

MECHANICAL

Standard Color:	• Black • Lockable with removable side panels
Dimensions:	40” D x 23.75” W x 86” H
# of Rack Units:	45RU
Weight:	52.18lbs empty

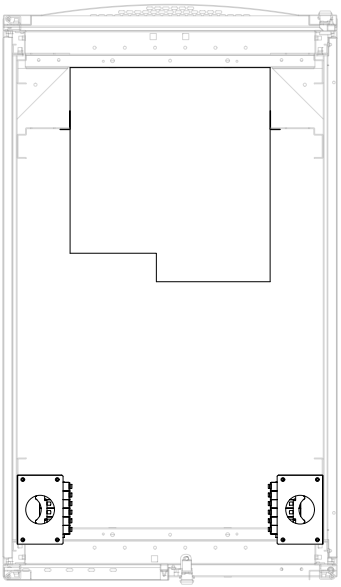
ENVIRONMENTAL

Operating Temperature:	-20 °C (-4 °F) to 50 °C (122 °F) Requires operation in a conditioned environment to ensure reliable operation Derate after 40 °C with 1U spacing
Altitude:	Up to 2000 m
Humidity:	20% to 70% Non-condensing

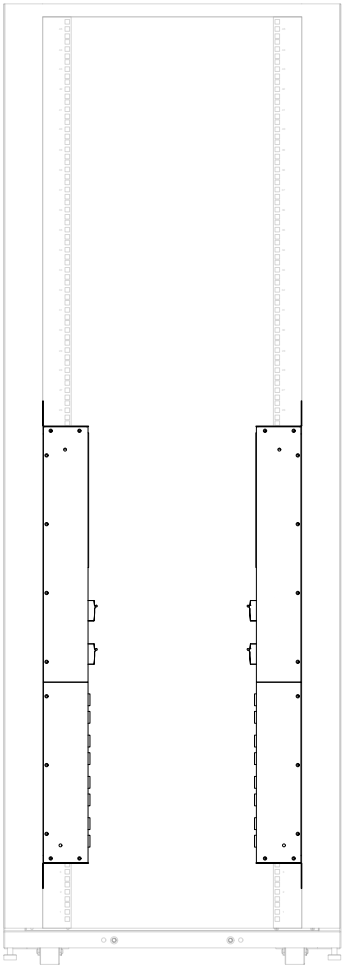
Warranty: see general terms and conditions at sinclair-digital.com

ADDITIONAL DRAWINGS

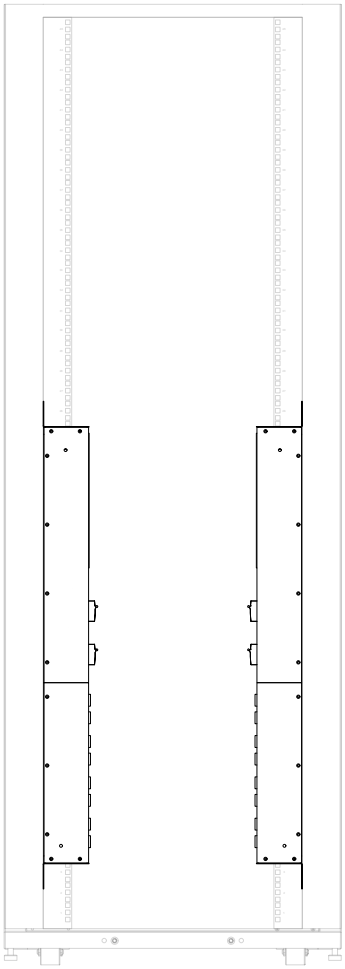
HEADEND PRIMARY



HEADEND PRIMARY



HEADEND SEC



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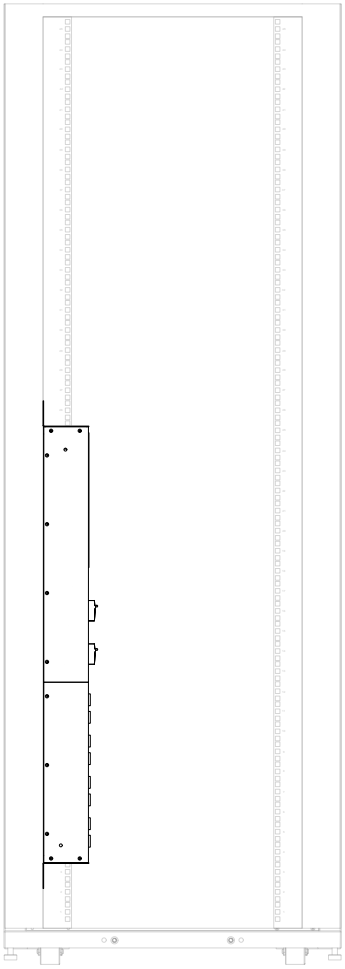

AGILE-CORE POWER DISTRIBUTION AND CONTROL SYSTEM