![HART TECHNOLOGIES logo]

Commercial Product Price List   **Wednesday, January 1, 2025**

Item Number	Title	Product Description/Capabilities	System Requirements	Terms of Sale	Price	Warranty	Production Point
V-TM	**VERIFY™ Test Manager**	HART Technologies VERIFY™ Test Manager streamlines enterprise wide test case planning, development, execution and analysis via an easy to use graphical user interface with integrated metrics analysis and data mining. HART Technologies VERIFY™ suite of enterprise process control, measurement, and analysis tools features Test Manager, Carnivore, ICD Wizard, and Exercise Manager.	Pentium IV, 2.0 GHz, 1 Gb SDRAM, 60Gb Disk, 10/100/1000 Ethernet Windows XP SP-3				
V-TM.001.01-L/W	Test Manager 1 Seat	Includes software installation and license key to operate Test Manager on one computer workstation. V-TM.002.01 Test Manager 12 mo. maintenance required.		Permanent license	2,875.00	12 mo.	US
V-TM.001.02-L/W	Test Manager 5 Seat	Includes software installation and license key to operate Test Manager on five computer workstations. V-TM.002.02 Test Manager 12 mo. maintenance required.		Permanent license	12,650.00	12 mo.	US
V-TM.001.03-L/W	Test Manager 10 Seat	Includes software installation and license key to operate Test Manager on ten (10) computer workstations. V-TM.002.03 Test Manager 12 mo. maintenance required.		Permanent license	23,000.00	12 mo.	US
V-TM.002.01	Test Manager 12 mo. Maintenance (1 Seat)	Includes product updates, and five (5) rapid response email trouble support tickets for one (1) installation of Test Manager.		Update key	862.50	NA	US
V-TM.002.02	Test Manager 12 mo. Maintenance (5 Seat)	Includes product updates, and ten (10) rapid response email trouble support tickets for five (5) installations of Test Manager.		Update key	3,795.00	NA	US
V-TM.002.03	Test Manager 12 mo. Maintenance (10 Seat)	Includes product updates, and twenty (20) rapid response email trouble support tickets for ten (10) installations of Test Manager.		Update key	6,900.00	NA	US
V-EXM	**VERIFY™ Exercise Manager**	HART Technologies VERIFY™ Exercise Manager provides Exercise Developer with integrated 2D Map / 3D Viewer and exportable XML data architecture. Exercise Manager integrates with Carnivore middleware to provide user defined real-time student scoring, after action review, and Learning Management System integration for newly developed and legacy platforms. Exercise Manager supports user defined skill progression training exercise including instructor prompts and queries, user defined measures, and full exercise controls including pre-planned routes, checkpoints and waypoints, along with user defined OPFOR / BLUFOR CGF entity behaviors, aggressions and skill levels. Exercise Manager includes a native SAF interface to support integration with both DIS and HLA SAF solutions. HART Technologies VERIFY™ suite of enterprise process control, measurement, and analysis tools features Test Manager, Carnivore, ICD Wizard, and Exercise Manager.					
V-EXM.001.01	Exercise Manager SDK License 1 seat	Includes software installation media for Exercise Manager SDK libraries and runtime license key for one (1) development system. Includes: V-CNV.001.01 Carnivore Data Analyst (1 Seat) V-CNV.001.03 Carnivore Middleware Software Developers Kit (1 Seat) V-EXM.001.005 Exercise Developer Runtime license (1 Seat) V-TM.001.01-L/W Test Manager (1 Seat) Includes initial 12 mo. Maintenance V-EXM.002.01	Pentium IV Dual Core 3.2Ghz, 2GB RAM, 60GB Disk, 10/100/1000 Ethernet Linux / GCC 3.4 Windows XP SP-3 / Visual Studio 2003	Permanent license key	149,500.00	12 mo.	US

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V-EXM.001.05	Exercise Developer 2.0 Runtime license	HART Technologies Verify™ Exercise Developer 2.0 with integrated 2D Map and exportable XML data architecture which integrates seamlessly with HART Technologies Exercise Manager real-time environment. Exercise Developer utilizes the common Terra-page and CTDB format to insure correlation with deployed Visual Databases and SAF solutions. Includes software installation and license key to operate Exercise Developer 2.0 run-time on one (1) Windows XP system. Includes initial 12 mo. Maintenance. V-EXM.002.05	Pentium IV Dual Core 3.2Ghz, 2GB RAM, 60GB Disk, 10/100/1000 Ethernet Windows XP SP-2	Permanent license key	2,995.00	12 mo.	US
V-EXM.001.06	3D Ocean Embedded Training System Image Generation Module Runtime	HART Technologies Verify™ Permanent license, product updates, and rapid response telephone/email trouble support for one (1) installation of 3D Ocean Embedded Training System Image Generation Module Gaming Engine based Image Generator Representative 3D Ocean (no geospecific terrain visualization) Representative (non physics based) Low Light TV / Sensor View	MS Windows 10 Intel Core I5 Processor GeForce Gtx650 1gb with DirectX 11	Permanent license key	2,495.00	12 mo.	US
V-EXM.002.01	EXM SDK 12 mo. Maintenance (1 Seat)	Includes product updates, and rapid response email trouble support for one (1) installation of ExerciseManager SDK and Run-Time.		Update key	40,250.00	NA	US
V-EXM.002.04	EXM Runtime and Installation Support (1 Seat) - 12mo	Includes installation/update keys, two days priority installation support, product updates, and rapid response telephone/email trouble support for one (1) installation of Exercise Manager Run-Time. Note: Travel to customers facility is separately priced based on actual reasonable expenses.		Permanent license key/Update key	20,495.00		
V-EXM.002.04-MT	EXM Runtime (1 Seat) - 12mo Maintenance Renewal	Includes product updates, and rapid response telephone/email trouble support for one (1) installation of Exercise Manager run-time on MK46 Gun Weapon Systems ETS Hardware.		Update key	5,123.75	12 mo.	US
V-EXM.002.05	Exercise Developer Run-time 12 mo. Maintenance (1 Seat)	Includes product updates, and five (5) rapid response email trouble support tickets for one (1) installation of Exercise Developer 2.0 Run-time.		Update key	898.50	NA	US

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V-CNV	**VERIFY™ Carnivore 3**	The VERIFY™ Carnivore framework provides a network / Inter Process Communications (IPC) based run-time environment and interface layer used to integrate and manage multiple distributed software applications. The Carnivore middleware application enables a structured communications interface and scheduling architecture suitable for the operation of distributed Windows and Linux computing platforms and delivers deterministic real-time performance. As the foundation for the VERIFY suite of capabilities and tools, Carnivore uses XML based Interface Control Documents to provide a data driven real-time communications framework to enable software applications and interfaces to be independently abstracted and insulated from the physical hardware and related interfaces. HART Technologies VERIFY™ suite of enterprise process control, measurement, and analysis tools features Test Manager, Carnivore, ICD Wizard, and Exercise Manager.				12 mo.	
V-CNV.001.01	VERIFY™ Carnivore 3 Data Analyst	Carnivore Data Analyst is a Windows based application tool which enables a User to access, view, record, manipulate and perform analysis of application interface communications data, in real-time, using an advanced Graphical User Interface. Carnivore Data Analyst uses an extensible modular plug-in architecture which provides the ability to add new and existing interfaces without the need to modify the tool. Support for new interfaces is developed using the Carnivore Interface Plug-in development libraries provided by the Carnivore SDK. Includes software installation and license keys to operate Carnivore Data Analysts on one (1) Windows XP systems. Includes initial 12 mo. Maintenance. V-CNV.002.01	Pentium IV Dual Core 3.2Ghz, 2GB RAM, 60GB Disk, 10/100/1000 Ethernet Windows XP SP-3	Permanent license key	2,995.00	12 mo.	US

Item Number	Title	Product Description/Capabilities	System Requirements	Terms of Sale	Price	Warranty	Production Point
V-CNV.001.02	VERIFY™ Software Developers Kit for Carnivore 3 Middleware	Carnivore Middleware Software Developers Kit delivers HART Technologies' Carnivore middleware development suite including real-time libraries and APIs which provide streamlined integration, control, data recording, and monitoring of the distributed environment. Linkable APIs enable Cross platform support for Windows and Linux applications and enable interface operations support for multiple bus interface standards and network protocols. The Carnivore Middleware Software Developers Kit (Carnivore SDK) includes the Carnivore Advanced Simulation Environment Libraries (CarnivoreASE) which deliver a proven framework of integrated real-time libraries to streamline development and deployment of complex distributed systems including dynamic control systems, real-time Modeling & Simulation systems, and avionics / vetronics systems. CarnivoreASE contains object oriented libraries supporting real-time scheduling, command and control, 6DOF transforms / dynamic classes (Euler, Quaternion), and math/network utilities. Designed to support and interoperate in the Carnivore environment, CarnivoreASE supports a wide variety of Windows and Linux based computing architectures. Includes software installation media for Carnivore Middleware development libraries which may installed on multiple systems as required to support to three (3) developers. *Note: Customer applications developed under this SDK may be distributed without restriction and free of recurring license fees* Includes: V-CNV.001.01 Carnivore Data Analyst (1 Seat) V-CNV.002.03 Initial 12 mo. Maintenance	Pentium IV Dual Core 3.2Ghz, 2GB RAM, 60GB Disk, 10/100/1000 Ethernet Linux / GCC 3.4 Windows XP SP-3 / Visual Studio 2005 / 2009	Permanent license key	47,395.00	12 mo.	US
V-CNV.001.03	CarnivoreEmbedded SDK	CarnivoreEmbedded Software Developers Kit delivers HART Technologies' Carnivore middleware development suite scaled to meet the unique requirements of embedded processing and I/O. CarnvioreEmbedded libraries integrate with AVR Studio to streamline development and targeting of 32,16 and 8 bit Atmel microcontrollers in a real-time environment. Note: Usage subject to the HART Verify End Use License Agreement. Customer applications developed under this SDK may be distributed without restriction and free of recurring license fees	Target: ATMEL 32 bit/8 bit processors Development Environment: Windows XP/7 (AVR Studio)	Permanent license	4,495.00	12 mo.	US
V-CNV.002.01	Carnivore 3 Data Analyst 12 mo. Maintenance (1 Seat)	Includes product updates, and five (5) rapid response email trouble support tickets for one (1) installation of Carnivore Data Analyst.		Update key	898.50	NA	US
V-CNV.002.02	Carnivore 3 Middleware SDK 12 mo. Maintenance	Includes product updates, and rapid response email trouble support for one (1) installation of Carnivore Middleware SDK.		Update key	14,218.50	NA	US
V-CNV.002.03	CarnivoreEmbedded SDK 12 Mo. Maintenance	Includes product updates, and rapid response email trouble support for one (1) installation of CarnivoreEmbedded SDK.			1,495.00	NA	US

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V-ATE	VERIFY™ Automated Test Environment	HART Technologies Verify™ Automated Test Manager graphical interface streamlines creation of automated test cases and test steps based on the proven CarnivoreASE architecture. The Verify™ Automated Test Environment provides user selectable ICD/Version selection controls on a interface by interface basis; step transition controls based on time, signal events, or user controls; output control for Boolean, Discrete, and Analog signals; import of signal waveforms defined in CSV format.; and recording event definitions for Boolean, Discrete, and Analog signals on a execution step basis; Test Step event monitoring and control (Pass, Fail, Defer, Next Step); display of rich text fields; real-time monitoring of control signal outputs and recording events. Test Case Scoring review (Pass/Fail/Defer); real-time playback of all recorded, exportable data to CSV format.	Pentium IV Dual Core 3.2Ghz, 2GB RAM, 60GB Disk, 10/100/1000 Ethernet Linux / GCC 3.4 Windows XP SP-3 / Visual Studio 2005 / 2009			12 mo.	US

V-ATE.001.02	Development License 1 seat	Includes software installation and license key to operate Automated Test Environment developer and run-time on one (1) computer workstation.
		
		Includes:
		  V-CNV.001.01 Carnivore Data Analyst (1 Seat)
		  V-CNV.001.03 Carnivore Middleware Software Developers Kit (1 Seat)
		  V-TM.001.01-L/W Test Manager (1 Seat)
		
		Includes initial 12 mo. Maintenance V-ATE.002.01
				Permanent license key	115,000.00	12mo	US

V-ATE.001.04	Run-time license - additional	Includes software installation and license key to operate Automated Test Environment run-time on one (1) system. Includes initial 12 mo. Maintenance V-ATE.002.03		Permanent license key.	23,000.00	12 mo.	US
V-ATE.002.01	Developer 12 mo. Maintenance (1 Seat)	Includes product updates, and rapid response email trouble support for one (1) installation of Automated Test Environment Developer and Run-Time.		Update key	34,500.00	NA	US
V-ATE.002.03	Run Time 12 mo. Maintenance	Includes product updates, and rapid response email trouble support for one (1) installation of Automated Test Environment Run-Time.		Update key	6,900.00	NA	US
V-TRA	Training Courses						
V-TRA-TM-U	VERIFY Test Manager User Training (1 day)	A hands-on training course in the lab designed to train IT engineers, test personnel and operators in the organization, capabilities and operation of the Test Manager tool. The focus of the training is the operation, data collection and analysis of data produced by Test Manager, At the end of this course the participants will have the knowledge and ability plan and design test procedures and to begin testing operations with Test Manager.	NA	1-5 Student Class conducted at Manassas, VA	2,875.00	NA	US
V-TRA-TM-A	VERIFY Test Manager Advanced Training (3 day)	A hands-on training course in the lab designed to introduce and train systems engineers, software engineers and test personnel, in the advanced concepts of test management, organization and execution for large scale IT and M&S projects. The focus of the training is the setup, configuration, planning, sustainment and expansion of Test Manager functions as it pertains to the attendee's specific application of the tool. At the end of this course the participants will have the knowledge and ability to design, program and implement expanded functionality of Test Manager's operational capability.	NA	1-5 Student Class conducted at Manassas, VA	8,625.00	NA	US

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V-TRA-SDK	Carnivore Software Developers Toolkit (5 day)	A hands-on training course in the lab oriented towards IT engineers, system architects, software engineers, operators and test personnel in the concepts of Carnivore core architecture, interfaces, organization and capabilities. The focus of the training is the architecture, integration, operations, sustainment and expansion of Carnivore as it pertains to the attendee's specific application. At the end of this course the participants will have the knowledge and ability to develop strategies for functional design and integration of Carnivore libraries and functions into a distributed time critical hardware and software application. Student will be prepared to begin operations with Carnivore and plan for the development and integration of user specific simulation and test functions.	NA	1-5 Student Class conducted at Manassas, VA	14,375.00	NA	US
V-TRA-EXM-U	VERIFY Exercise Manager User Training (3 day)	A hands-on training course in the lab designed to introduce systems engineers, instructional systems and test personnel, in the design, capabilities and implementation strategies of the Verify Exercise Manager tool. The focus of the training is on the scenario planning including preprogrammed computer generated forces (CGF), mission execution, data collection, analysis, and after action review of a training exercise or test event as it pertains to the attendee's specific application. At the end of this course the participants will have the knowledge and ability to develop a scenario, execute a simple mission, collect and analyze mission data, and present a relevant after action review briefing.	NA	1-5 Student Class conducted at Manassas, VA	8,625.00	NA	US
V-TRA-EXM-D	VERIFY Exercise Manager Developers Training (5 day)	A hands-on training course in the lab designed to introduce systems engineers, instructional system designers, software engineers and test personnel, in the architecture, core design, capabilities and implementation methods of the Verify Exercise Manager tool. The focus of the training is on the design, integration, and expansion of scenario planning features computer generated forces (CGF) functions, mission execution, data collection features and after action review functions as they pertains to the attendee's specific application. At the end of this course the participants will have the knowledge and ability to develop design, program, integrate and test new and expanded capabilities using Exercise Manager.	NA	1-5 Student Class conducted at Manassas, VA	14,375.00	NA	US
V-TRA-ATE-U	VERIFY Automated Test Environment User Training (3 day)	A hands-on training course in the lab designed to introduce systems engineers, test personnel, in the design, capabilities and implementation strategies of the Automated Test Environment (ATE) tool. The focus of the training is on the capabilities and implantation strategies to incorporate ATE into the attendees specific application. At the end of this course the participants will have the knowledge and ability to develop a automated test scenarios, execute the test scenario, record ,collect and analyze test data, and represent test data in the multiple plotting formats provided by the tool.	NA	1-5 Student Class conducted at Manassas, VA	8,625.00	NA	US
V-TRA-ATE-D	VERIFY Automated Test Environment Developers Training (3 day)	A hands-on training course in the lab designed to introduce IT engineers, systems analysts, software engineers and test personnel, in the architecture, core design, capabilities and integration methods of the Verify Automated Test Environment tool. The focus of the training is on design, integration strategies and further design and expansion of ATE functions as they pertains to the attendee's specific application. At the end of this course the participants will have the knowledge and ability to develop design, program, integrate and test new and expanded capabilities using the ATE.	NA	1-5 Student Class conducted at Manassas, VA	14,375.00	NA	US

Item Number	Title	Product Description/Capabilities	System Requirements	Terms of Sale	Price	Warranty	Production Point
V-SYS	**Computer Solutions**						
V-SYS-VID-08	Video / Graphics Processing Computer System	Designed for hosting Exercise Manager, Automated Test Manager, Instructional Systems, and high end Graphical / Image Generation applications. System Configuration*: 2x Intel Xeon E5-2407 v2 Quad-core (4 Core) 2.40 GHz Processor - Socket FCLGA1356 Intel C606 Chipset -Dual Socket B2 LGA-1356 4U RACKMOUNT CASE 700 WATT P.S. 16GB DDR3 ECC/REG - MAX 192GB 2x 1TB 7200RPM HD 2x CRU DATAPORT V+ Kit 24X DVD+RW GEFORCE GTX750Ti 2GB DUAL INTEL GIGABIT HD 7.1 AUDIO CENTOS LINUX ES 6 -OR- MS WINDOWS 7 PRO w/ XP PRO PREINSTALLED *System Configuration may be updated without notice to reflect COTS component upgrades or customer configuration requirements.	NA	Includes 12 months Parts & Labor Warranty	4,823.74	12 mo.	US
V-SYS-RT-08	Real-time Processing Computer System	Designed for hosting real-time Modeling & Simulation applications. System Configuration*: 2x Intel Xeon E5-2407 v2 Quad-core (4 Core) 2.40 GHz Processor - Socket FCLGA1356 Intel C606 Chipset -Dual Socket B2 LGA-1356 4U RACKMOUNT CASE 700 WATT P.S. 16GB DDR3 ECC/REG - MAX 192GB 2x 1TB 7200RPM HD 2x CRU DATAPORT V+ Kit 24X DVD+RW DUAL INTEL GIGABIT HD 7.1 AUDIO CENTOS LINUX ES 6 -OR- MS WINDOWS 7 PRO w/ XP PRO PREINSTALLED *System Configuration may be updated to reflect COTS component upgrades or customer's specific configuration requirements.	NA	Includes 12 months Parts & Labor Warranty	4,201.52	12 mo.	US

Item Number	Title	Product Description/Capabilities	System Requirements	Terms of Sale	Price	Warranty	Production Point
V-SYS-MOB-08	Mobile Graphics Processing Computer System	Designed for hosting mobile Automated Test, Graphics and Modeling & Simulation applications. System Configuration*: 3rd Gen Intel® Core™ i7-3940XM Proc(Extreme 3.0GHz, 8M cache, Upgradable to Intel® vPro™ technology) 15.6US FHD(1920x1080)WV AG,USH for Windows® 8 8 GB3 DDR3 SDRAM at 1600MHz 500GB 2.5" 7200rpm Hard Drive Video Card AMD® FirePro® M4000 Mobility Pro Graphics with 1GB GDDR58X DVD+/-RW Slot Load Windows 7 Professional, No Media, 64-bit, English *System Configuration may be updated without notice to reflect COTS component upgrades or customer configuration requirements.	NA	Includes 12 months Parts & Labor Warranty	3,476.88	12 mo.	US
V-SYS-3UGR-08	3U Dual Core Graphics Processing Computer System	Designed for hosting Automated Test, Graphics, and Modeling & Simulation applications in a compact 3u form factor. System Configuration*: INTEL CORE i5 PROCESSOR GA-P85-D3 MAINBOARD - 4 PCI SLOTS 3U CASE 15.7" DEEP 470 WATT P.S. 8GB DDR3 ECC UDIMM 500GIG SATA2 7200RPM HD 24X DVD+-R/RW GEFORCE GTX750 1GB INTEL 10/100/1000B-T ENET HD AUDIO CENTOS LINUX ES 6 -OR- MS WINDOWS 7 PRO w/ XP PRO PREINSTALLED *System Configuration may be updated to reflect COTS component upgrades or customer's specific configuration requirements.	NA	Includes 12 months Parts & Labor Warranty	2,511.92	12 mo.	US
V-SYS-1URT-08	1U Dual Core Automated Test and Real-time Processing Computer System	Designed for hosting real-time Modeling & Simulation applications in a compact 1u form factor. System Configuration*: INTEL CORE i5 PROCESSOR 5017C-LF SHORT 1U 8GB DDR3 ECC UDIMM 500GIG SATA2 7200RPM HD DUAL GIGABIT LAN CENTOS LINUX ES 6 -OR- MS WINDOWS 7 PRO w/ XP PRO PREINSTALLED MOXA CP-134EL-A-I-DB9M *System Configuration may be updated to reflect COTS component upgrades or customer's specific configuration requirements.	NA	Includes 12 months Parts & Labor Warranty	2,436.79	12 mo.	US

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HT001100001	General Purpose I/O Card (GPIO)	General Purpose I/O Card (GPIO)
		XMega 8 bit processor
		  Interface: SIP, I2C, JTAG and RS232 debug
		  External sample rate up to 2Khz with all channels active
		4 configurable RS232/485/422 Serial Ports
		2 dedicated RS422 Ports
		16 Opto-isolated Inputs with default trip level set to 12-28v
		16 Opto-isolated 1A polyfused Outputs configurable to sourced input (5v, 24, gnd)
		Operating temperature range -30/+65C
		User modifiable code base via JTAG (IEE1149.1 Compliant)
			NA	Includes 12 months Parts & Labor Warranty	1,550.00	12 mo.	US

HT001100002	Analog to Digital I/O Card (ADC)	Analog to Digital I/O Card (ADC)
		  XMega 8 bit processor
		    Interface: SIP, I2C, JTAG and RS232 debug
		    External sample rate up to 2Khz with all channels active
		Two banks of two bipolar 16 single ended / 8 differential inputs
		  +/-30v input, up to 30kSPS sample rate
		Operating temperature range -30/+65C
		User modifiable code base via JTAG (IEE1149.1 Compliant)
			NA	Includes 12 months Parts & Labor Warranty	1,250.00	12 mo.	US

HT001100003	Digital to Analog I/O Card (DAC)	Digital to Analog I/O Card (DAC)
		  XMega 8 bit processor
		    Interfaces: SIP, I2C, JTAG and RS232 debug
		    External sample rate up to 2Khz with all channels active
		Bipolar 16 channels / 16 bit analog outputs configuration with up to 4 fully differential outputs
		    +/-10v output
		   Output channels can be individually or simultaneously controlled
		   Output update rate up to 1Khz with all channels active
		Operating temperature range -30/+65C
		User modifiable code base via JTAG (IEE1149.1 Compliant)
			NA	Includes 12 months Parts & Labor Warranty	1,250.00	12 mo.	US

HT001100004	Synchro Resolver Board (SYN/RES)	Synchro Resolver Board (SYN/RES)
		Onboard XMega 8 bit processor
		    Interfaces: SIP, I2C, JTAG and RS232 debug
		    External output rate up to 2Khz
		Sin/Cos Resolver Emulator
		   Single channel / Differential out
		   Buffered Reference Output
		   Reference Input Range: 40Hz - 10K Hz
		2 dedicated RS422 Ports
		Operating temperature range -30/+65C
		User modifiable code base via JTAG (IEE1149.1 Compliant)
			NA	Includes 12 months Parts & Labor Warranty	2,500.00	12 mo.	US

HT001100005	I/O Expander Board	I/O Expander Board / Breakout Board 50 channel screw terminal 5 onboard mechanical DPDT relays (50v) with NC, NO, Common terminal	NA	Includes 12 months Parts & Labor Warranty	450.00	12 mo.	US

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HT013100001	Main Processor Board	Main Processor Board
		  32 Bit ATMEL Processor
		    Interface: SIP, I2C, JTAG and RS232 debug
		  CAN Bus A/B
		  RS422/485 Serial
		  USB Interface
		  100BaseT Ethernet
		  Integrated I/O
		    4 Opto-isolated solid state relay outputs
		    8 channel single A/D convertors
		    16 GPIO (configurable I/O)
		  Operating temperature range -30/+65C
		  User modifiable code base via JTAG (IEE1149.1 Compliant)
			NA	Includes 12 months Parts & Labor Warranty	1,795.00	12 mo.	US

HT013100002	Dual Channel Motor Controller Board	Motor Controller Board
		  Onboard XMega 8 bit processor
		    Interfaces: SIP, I2C, JTAG and RS232 debug
		  2 Allegro A4979 Stepper Motor Driver with stall detection
		  Integrated I/O
		    4 Opto-isolated solid state relay outputs
		    4 channel single A/D convertors inputs
		    4 GPIO (configurable I/O)
			NA	Includes 12 months Parts & Labor Warranty	1,245.00	12 mo.	US

HT013100003	Power Module	Input Power
		  18-36VDC (with 12 VDC/15 VDC modules)
		Output Power
		  18-28VDC (unregulated input voltage)
		  +5 VDC @ 6A
		  +/-15 VDC @ 3A expansion modules installed
		  +12 VDC @ 6A expansion modules installed
		Operating temperature range -30/+65C
			NA	Includes 12 months Parts & Labor Warranty	395.00	12 mo.	US

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HT015010000	I/O Chassis	5U Chassis - 9.75" Depth (Excluding harnessing)
		Fits standard 19" Rackmount or optional ruggedized standalone format
		8 I/O Slots with slot dedicated rear mounted external connectors
		  55 Pin MIL-38999 (17/E Size) with 50 input/output or 25 differentially routed pairs
		    Mate: D38999/26WE35PN
		  37 Pin MIL-38999 (15/D Size) with USB, Ethernet, Serial outputs
		    Mate: D38999/26WD35PN
		Dedicated Power Slot with intelligent communication bus
		  16 Pin MIL-38999 power in connector
		    Power In (2 pins / 13 amp)
		    Four Relay Input Pairs (2 pins ea.)
		    Mate: D38999/26WG16SN
		  16 Pin MIL-38999 Relay out connector
		    Four Relay Output Pairs (2 pins ea. / 7.5 amps)
		    Mate: D38999/26WG16PN
		Configurable SPI busing
		Hour Meter
		Operating temperature range -30/+65C
			N/A	Includes 12 months Parts & Labor Warranty	4,995.00	12 mo.	US

HT015010050	I/O Development Kit	Kit include I/O card mounting base capable of mounting dual stacks of HART I/O cards with:
		  auxiliary card mounting position,
		  internal daisy chain power cable,
		  50 pin I/O cable,
		  10 pin SPI interface cable
		
		Includes HT015010053, Kit, Power Development
			N/A	Includes 12 months Parts & Labor Warranty	245	12 mo.	US

HT015010053	I/O Development Power Assembly	19.5V DC Power for I/O Chassis or PC104 Power Card
		  65W DC Power Supply
		  Power supply to female banana jack adapter
		  Power supply to Molex adapter
		    Mate: 43045-0422
			N/A	Includes 12 months Parts & Labor Warranty	125	12 mo.	US

HT015020007	GPIO Carrier Card, I/O Chassis Assembly	Fits I/O Slot in HT015010000 - I/O Chassis Assembled carrier card, harnessing, and main front plate ready to accept HT001100001 General Purpose I/O Card	N/A	Includes 12 months Parts & Labor Warranty	295	12 mo.	US
HT015020008	Main Carrier Card, I/O Chassis Assembly	Fits I/O Slot in HT015010000 - I/O Chassis Assembled carrier card, harnessing, and main front plate ready to accept HT013100001 Main Processor Board	N/A	Includes 12 months Parts & Labor Warranty	295	12 mo.	US
HT015020009	Power Module Carrier Card, I/O Chassis Assembly	Fits Power Slot in HT015010000 - I/O Chassis Assembled carrier card, harnessing, and front plate ready to accept HT013100003 CCA, POWER MODULE	N/A	Includes 12 months Parts & Labor Warranty 295		12 mo.	US
HT015020013	Blank Front Plate, I/O Chassis Assembly	Fits I/O Slot in HT015010000 - I/O Chassis Blank Plate to protect empty I/O slot	N/A	Includes 12 months Parts & Labor Warranty	30	12 mo.	US

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HT015030001	Quad Channel Fiber Processor Module, I/O Chassis Assembly	Fits I/O Slot in HT015010000 - I/O Chassis
		32 Bit ATMEL Processor
		Onboard Interfaces
		  4 Channel Fiber
		    TX / RX
		    ST Connector
		    820-nm wavelength
		  2 SPI / TWI
		  2 CAN Bus A/B
		  1 USB interface
		  1 100BaseT Ethernet
		  1 Ethernet LED Control
		Onboard I/O
		  8 Opto-isolated discrete inputs
		  8 Opto-isolated solid state relays
		  4 Channel single A/D convertor
		Board ID: 2 bits external strapping with 16 position internal selector
		5v power input; 12-32V input optional for relay output
		User modifiable code base via JTAG
		Operating temperature range -30/+65C
			N/A	Includes 12 months Parts & Labor Warranty	1995	12 mo.	US

HT015030010	Redundant Power Module, I/O Chassis Assembly	Fits Power Slot in HT015010000 - I/O Chassis
		Control Logic
		  Redundant output power with automated failover based on health of module
		  Current and Voltage sensors for each module
		  Status lights for each module
		  2 Opto-isolated Power status I/O lines Outputs
		Input Power
		  18-36VDC
		  Protected by 3A circuit breaker
		Output Power
		  18-28VDC (unregulated input voltage)
		  +5 VDC @ 6A
		  +/-15 VDC @3A
		8 Bit ATMEL Processor
		4 Solid State Relays
		  Controlled by Main or GPIO module
		  7.5 A each protected by circuit breakers
		Onboard interfaces
		  SPI
		  TWI
		User modifiable code base via JTAG
		Operating temperature range -30/+65C
			N/A	Includes 12 months Parts & Labor Warranty	1495	12 mo.	US

HT015030014	Generic Carrier Module, I/O Chassis Assembly	Fits I/O Slot in HT015010000 - I/O Chassis Assembled carrier card, harnessing, and generic front plate ready to accept any HART or customer developed PC104 I/O card	N/A	Includes 12 months Parts & Labor Warranty	295	12 mo.	US
HT015030052	Din Rail Mounted PC104 Carrier Assembly	Mount PC104 card on DIN Rail PC104 rotation configurable	N/A	Includes 12 months Parts & Labor Warranty	55	12 mo.	US

Item Number	Title	Product Description/Capabilities	System Requirements	Terms of Sale	Price	Warranty	Production Point

HT015100003	Dual Channel Fiber Processor Card	32 Bit ATMEL Processor
		Onboard Interfaces
		  2 Channel Fiber
		    TX / RX
		    ST Connector
		    820-nm wavelength
		  2 configurable RS232/RS422/RS485
		  2 SPI / TWI
		  2 CAN Bus A/B
		  1 USB interface
		  1 100BaseT Ethernet
		  1 Ethernet LED Control
		Onboard I/O
		  4 Opto-isolated discrete inputs
		  4 Opto-isolated solid state relays
		  2 Channel single A/D convertor
		Board ID: 2 bits external strapping with 16 position internal selector
		5v power input; 12-32V input optional for relay output
		User modifiable code base via JTAG
		Operating temperature range -30/+65C
			N/A	Includes 12 months Parts & Labor Warranty	1795	12 mo.	US

HT015300001	I/O Harness, I/O Chassis	Mates to HT015010000 I/O Chassis 55 Pin MIL-38999 (E Size)MIL-38999 to 50 pin IDE harness
		  50 input/output or 25 differentially routed pairs
		  Connector: D38999/26WE35PN
		  Mate: 88-569775-35S
		Mates to HT001100005 I/O Expander / Breakout Board IDE
		  IDE Connector: 1-102387-0
		  IDE Mate: 1-1761607-5
			N/A	Includes 12 months Parts & Labor Warranty	495	12 mo.	US

HT015300002	Development Breakout Harness, I/O Chassis	MIL-38999 to USB, ETH, ETH LED, & RS232/RS422/RS485 harness
		Mates to HT015010000 I/O Chassis 37 Pin MIL-38999 (15/D Size) MIL-38999
		  Connector: D38999/26WD35PN
		  Mate: 88-569774-35S
		Outputs:
		  USB Connector: USB A
		  Ethernet Connector: RJ45
		  Ethernet LED Status:
		    Connector: 70107-0004
		    Mate: 50-57-9405
		  RS232/RS422/RS485: 3 Male DB9
			N/A	Includes 12 months Parts & Labor Warranty	395	12 mo.	US

HT015300004	Power Harness, I/O Chassis	MIL-38999 to male banana jack harness
		Mates to HT015010000 I/O Chassis 16 Pin MIL-38999 power in connector
		  Connector: D38999/26WG16SN
		  Mate: : 88-0670888-16P
			N/A	Includes 12 months Parts & Labor Warranty	195	12 mo.	US

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Item Number	Title	Product Description/Capabilities	System Requirements	Terms of Sale	Price	Warranty	Production Point

HT015300006	Ethernet Harness, I/O Chassis	MIL-38999 to RJ45 harness
		Mates to HT015010000 I/O Chassis 37 Pin MIL-38999 (15/D Size) MIL-38999
		  Connector: D38999/26WD35PN
		  Mate: 88-569774-35S
		Outputs:
		  Ethernet Connector: RJ45
			N/A	Includes 12 months Parts & Labor Warranty	149	12 mo.	US

HT022100000	10 Port Network Switch (10/100)	Onboard interfaces
		  # 10 - 4 pin 10/100 Ethernet Connectors
		  # 2 - expansion connectors for interfacing to additional switches
		3.6v-36v power input
		Operating temperature range -30/+65C
		Ability to daisy chain multiple switches to increase number of available ports
			N/A	Includes 12 months Parts & Labor Warranty	1795	12 mo.	US

V-Maintenance

Item Number	Title	Product Description/Capabilities	System Requirements	Terms of Sale	Price	Warranty	Production Point
V-Maintenance-HW	Hardware Maintenance and Repair	Maintenance, troubleshooting and repair of computer hardware and related equipment. Includes phone support and troubleshooting. Fault isolation and rapid return to service, and factory depot repair and replace services.	NA	Time + Materials	$80 / hr. + (Materials + G&A + 12%)	90d	US
V-Maintenance-SW	Dedicated Rapid Response Developer Support and Priority Request Updates	Technical support for customer implementation and application of HART software products. Includes unlimited trouble reports with rapid fix/resolution deployment and customer Priority Request product update releases. Support may be procured in increments of 1/4 time. N. Travel to customers facility is separately priced based on actual reasonable expenses.		12 month period of performance	245,664.94	NA	US

LPD/DDG MK46 ETS Integrated Assemblies

Item Number	Title	Product Description/Capabilities	System Requirements	Terms of Sale	Price	Warranty	Production Point
HT024010100	COMPUTER, MK46 ETS, HOST, INTEGRATED ASSEMBLY	Includes: HT015010100 COMPUTER, MK46 ETS, HOST HT024840100 HOST SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM MK46 SW VER. 4.1.0 (LPD, DDG AND LCS PLATFORM) provided as GFI NOTE: EXPORT CONTROLLED: ITAR (DD2345 REGISTRATION REQUIRED)		Includes 12 months Parts & Labor Warranty	12,871.60	12 mo.	US
HT024010101	COMPUTER, MK46 ETS IG, INTEGRATED ASSEMBLY	Includes: HT015010101 ICOMPUTER, MK46 ETS IG HT024840101 IG SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM NOTE: EXPORT CONTROLLED: ITAR (DD2345 REGISTRATION REQUIRED)		Includes 12 months Parts & Labor Warranty	11,243.05	12 mo.	US
HT024010104	COMPUTER, MK46 ETS IOS, INTEGRATED ASSEMBLY	Includes: HT015010104 COMPUTER, MK46 ETS IOS HT024840104 IOS SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM NOTE: EXPORT CONTROLLED: ITAR (DD2345 REGISTRATION REQUIRED)		Includes 12 months Parts & Labor Warranty	13,397.35	12 mo.	US

LPD/DDG MK46 ETS Software

Item Number	Title	Product Description/Capabilities	System Requirements	Terms of Sale	Price	Warranty	Production Point
HT024840100	HOST SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM	The MK46 ETS Host software leverages HART Technologies Exercise Manager to provide on-board high fidelity embedded simulation of the MK46 30mm Gun Weapon System. Requires: - HT024840101 IG SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM - HT024840104 IOS SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM NOTE: EXPORT CONTROLLED: ITAR (DD2345 REGISTRATION REQUIRED)		Permanent License	9,117.60	12 mo.	US
HT024840101	IG SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM	The MK46 ETS Image Generation software provides high fidelity simulation of the MK46 Thermal Imaging system (TIS) and Low Light Television (LLTV) video. Requires: - HT024840100 HOST SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM - HT024840104 IOS SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM EXPORT CONTROLLED: ITAR (DD2345 REGISTRATION REQUIRED)		Permanent License	7,053.80	12 mo.	US
HT024840104	IOS SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM	The MK46 ETS IOS provides a intuitive graphical user interface for exercises which streamline training of skills and task for MK46 crew coordination, gunnery, pre-operational checks, and fault detection procedures using preprogrammed, autoscored scenarios to challenge the knowledge and ability of the student. The MK46 ETS IOS include HART Technologies Exercise Developer Requires: - HT024840100 HOST SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM - HT024840101 IG SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM EXPORT CONTROLLED: ITAR (DD2345 REGISTRATION REQUIRED)		Permanent License	9,117.60	12 mo.	US
HT024840100-M	MAINTENANCE RENEWAL: HOST SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM	Product updates, and rapid response telephone/email trouble support for one (1) installation of: HT024840100 HOST SOFTWARE, MK46 EMBEDDED TRAINING		Update services	2,735.28	NA	US
HT024840101-M	MAINTENANCE RENEWAL: IG SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM	Product updates, and rapid response telephone/email trouble support for one (1) installation of: HT024840101 IG SOFTWARE, MK46 EMBEDDED TRAINING		Update services	2,116.14	NA	US
HT024840104-M	MAINTENANCE RENEWAL: IOS SOFTWARE, MK46 EMBEDDED TRAINING SYSTEM	Product updates, and rapid response telephone/email trouble support for one (1) installation of: HT024840104 IOS SOFTWARE, MK46 EMBEDDED TRAINING		Update services	2,735.28	NA	US

LPD/DDG MK46 Hardware

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Item Number	Title	Product Description/Capabilities	System Requirements	Terms of Sale	Price	Warranty	Production Point
HT015010100	COMPUTER, MK46 ETS, HOST	MINIMUM SPECIFICATIONS: A. CHASSIS: 1U RACK MOUNTABLE, INDUSTRIAL GRADE - LENGTH MAX: 482.6 MM (19.00 INCHES) - HEIGHT MAX: 50.8 MM (2.0 INCHES) - DEPTH MAX: 381.0 MM (15.0 INCHES) B. CPU: INTEL XEON QUAD CORE 3.1GHZ C. MEMORY: 16GB DDR3 D. HARD DRIVE: 500GB SSD E. VIDEO: 1 - HDMI F. ETHERNET: DUAL GIGABIT LAN G. EXPANSION SLOT: PCI-EXPRESS H. SERIAL: MOXA CP-134U V2 4 Port RS-422/485 PCI BOARD J. USB: THREE USB 2.0 OR BETTER K. OPERATING SYSTEM: RED HAT ENTERPRISE LINUX (RHEL) VERSION 9 OR LATER L. OPERATING TEMPERATURE: 10 °C to +35 °C M. NON-OPERATING TEMPERATURE: -40 °C TO +60 °C		Includes 12 months Parts & Labor Warranty	3,479.00	12 mo.	US
HT015010101	COMPUTER, MK46 ETS IG	MINIMUM SPECIFICATIONS: A. CHASSIS: 3U RACK MOUNTABLE, INDUSTRIAL GRADE - LENGTH MAX: 482.6 MM (19.00 INCHES) - HEIGHT MAX: 133.5 MM (5.25 INCHES) - DEPTH MAX: 406.4 MM (16.0 INCHES) B. CPU: INTEL CORE i5 PROCESSOR C. MEMORY: 16GB DDR3 D. HARD DRIVE: 500GB SSD E. CD DRIVE: DVD/ CD F. ETHERNET: INTEL 10/100/1000B-T G. GRAPHICS CARD: GEFORCE GTX750 1GB OR BETTER MEETING MINIMUM SPECIFICATIONS REQUIRED FOR UNREAL GAME ENGINE H. VIDEO CONNECTOR: 1 - DVI PORT J. USB: THREE USB 2.0 OR BETTER K. OPERATING SYSTEM: RED HAT ENTERPRISE LINUX (RHEL) VERSION 9 OR LATER L. OPERATING TEMPERATURE: 10 °C to +40 °C M. NON-OPERATING TEMPERATURE: -20 °C TO +60 °C		Includes 12 months Parts & Labor Warranty	3,914.25	12 mo.	US
HT015010102.A	SWITCH, SERIAL, EMBEDDED TRAINING LPD CONSOLE	LPD ET Serial Switch 1U 4 Channel Electronics RS-422 Serial Switch 2 RS422 Inputs x 1 RS422 Output		Includes 12 months Parts & Labor Warranty	4,595.00	12 mo.	US
HT023010103.-	VIDEO, CONVERTER	LPD High Resolution Scan Converter Rack Mounted DVI-D to RS-170 Convertor Computer Input up to 1920 x 1200 Video Outputs: RGB/S, S.Video, NTSC/PAL		Includes 12 months Parts & Labor Warranty	6,825.00	12 mo.	US

Item Number	Title	Product Description/Capabilities	System Requirements	Terms of Sale	Price	Warranty	Production Point
HT015010104	COMPUTER, MK46 ETS IOS	MINIMUM SPECIFICATIONS: A. CHASSIS: LAPTOP, COMMERCIAL - LENGTH MAX: 420.0 MM (16.5 INCHES) - HEIGHT MAX: 43.0 MM (1.96 INCHES) - DEPTH MAX: 265.0 MM (10.43 INCHES) B. CPU: INTEL CORE i5 PROCESSOR C. MEMORY: 8GB DDR3 D. HARD DRIVE: 500GB SSD E. POWER ADAPTER: 65W AC ADAPTER, 3-PIN F. ETHERNET: INTEL 10/100/1000B-T G. DISPLAY RESOLUTION: 1920 x 1080 H. VIDEO CONNECTOR: HDMI J. USB: TWO USB 3.2 OR BETTER K. OPERATING SYSTEM: RED HAT ENTERPRISE LINUX (RHEL) VERSION 9 OR LATER L. OPERATING TEMPERATURE: 10 °C to +35 °C M. NON-OPERATING TEMPERATURE: -40 °C TO +60 °C P. TRADE ACT COMPLIANT Q. WIRELESS: ONBOARD BLUETOOTH / WIRELESS SHALL BE REMOVABLE		Includes 12 months Parts & Labor Warranty	4,004.75	12 mo.	US

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Color Key
New Products for inclusion on schedule
Non-GSA Products
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