MECHTRIC

Networking & Communication

Networking & Communication: Powered by Mechtric's Expertise and Global Partnerships

With over 60 years of industry experience, Mechtric proudly partners with world-class manufacturers to deliver innovative solutions.

Mechtric's Networking and Communication solutions include industrial switches, routers, and gateways that provide secure and reliable data exchange across connected systems. To support advanced monitoring and control, software platforms such as Polar Cloud and VTScada deliver powerful tools for real-time visibility, remote management, and process automation. Together, these hardware and software solutions enable seamless integration and efficient operation across industrial networks.

Through these partnerships, Mechtric delivers high-quality products, competitive pricing, and unparalleled technical support, empowering your business to perform at its best.

Lovato electric

POLAR MONITORING

Trihedral
A Delta Group Company

Networking & Communication

Network Devices

Layer 1 industrial ethernet switches		Delta	G-1
Layer 2 industrial managed switches		Delta	G-1
Layer 3 rack-mount managed switches		Delta	G-2
Industrial routers		Delta	G-2

Industrial Gateways

LTE & Ethernet gateways		Polar Monitoring	G-3
Edge Gateway with on-board processing		Polar Monitoring	G-3

Industrial Software

Cloud-based monitoring and control platform		Polar Monitoring	G-4
Supervisory control and data acquisition system		Delta	G-6

Click **part number** to view **online**

ΔELTA

- **Layer 1** is about the physical transmission of raw data.
- **Layer 2** organizes this data into frames and handles node-to-node delivery within the same network using MAC addresses.
- **Layer 3** uses IP addresses for logical addressing and routes data across different networks.

Each layer builds upon the functionalities of the previous layer, ensuring that data is transmitted efficiently and correctly from one device to another, whether within the same network or across multiple networks.

Rugged ETHERNET

EMC FANLESS

NEW

DVS-005R00

DVS-008R00

DVS-G116W02-4GF

type	no. ports	operating temperature	alarm contact	no. fibre ports	description
Layer 1: Unmanaged industrial Ethernet switches					
Layer 1: Compact Ethernet switches *(Unmanaged)*					
• Input voltage: 12 to 48 VDC					
• 10 /100 base-T(X), auto MDI / MDI-X, auto negotiation					
DVS-005R00	5	-20...+70ºC	–	–	entry level Ethernet switch
DVS-008R00	8	-20...+70ºC	–	–	entry level Ethernet switch
Layer 1:Standard Ethernet switches *(Unmanaged)*					
• IEEE 802.1p Class of service / quality of service, priority protocols *(8W01 and 16W01)*					
• Input voltage: 2 sets, 12 to 48 VDC redundant terminal block input					
DVS-005W01	5	-40...+75ºC	yes	–	standard Ethernet switch
DVS-008W01	8	-40...+75ºC	yes	–	standard Ethernet switch
DVS-016W01	16	-40...+75ºC	yes	–	standard Ethernet switch
Layer 1: Gigabit Ethernet switches *(Unmanaged)*					
• 10 / 100 / 1000 base-T, auto MDI/MDI-X, auto negotiation • 10Gbps, wired speed					
• Input voltage: 12 to 48 VDC (2 set)					
DVS-G005I00C	5	-40...+70ºC	–	–	Gigabit Ethernet switch
Layer 1: PoE Gigabit Ethernet switches *(Unmanaged)*					
• 10 / 100 / 1000 base-T PoE(PSE) ports. 2 x 100 / 1000 base-SFP					
• Based on IEEE 802.3at standard up to 30W per port. Backward compatible with IEEE 802.3af					
DVS-G406W01-2GF	6	-40...+70ºC	yes	2 x SFP	PoE Gigabit Ethernet switch
Layer 2: Managed Ethernet switches					

Layer 2: Managed Ethernet switches

High-end Layer 2 management, redundant self-healing ring and a wide-operating temperature.

- Supports EtherNet/IP and Modbus TCP protocols for remote management by SCADA etc.
- IEEE 802.1X, TACACS+, SSH, HTTPS and SNMP v3 for enhanced network security
- Compatible with most industrial protocols, including: EtherNet/IP, Profinet, CC-LINK IE, DNP 3.0
- RJ45 ports: 10 / 100 / 1000 base-T, auto MDI/MDI-X, auto negotiation
- SFP ports: 100 / 1000 base-SFP

Layer 2: Managed Ethernet switches

type	no. ports	operating temperature	alarm contact	no. fibre ports	description
DVS-G112W02-4GF	8	-40...+75ºC	yes	4 x SFP	Managed Ethernet switch
DVS-G116W02-4GF	12	-40...+75ºC	yes	4 x SFP	Managed Ethernet switch

SFP fibre transceiver   *(SFP fibre transceiver - 1 port)*

type	operating temperature	interface		max. link distance
		connectors	fibre type	
LCP-1250A4FDRJ	-5ºC...70ºC	duplex LC	multi mode	550 m

Rugged ETHERNET

EMC FANLESS

DVS-G928W01
Excluding modules

NEW

DVS-G900-8GE ①

DVS-G900-6GM12 ②

DVS-G900-8GF ③

Rugged WIRELESS

DX-2400L9

DX-3021L9

Communication devices

type	no. ports	DI	DO (relay)	power input	operating temperature	description

Layer 3: Managed Ethernet switches

Layer 3 switches route network packets between different subnets, using hardware to determine the correct paths and ensure efficient data exchange. Delta Layer 3 switches incorporate advanced hardware and software to function effectively in harsh industrial settings.

• Enhanced network security with **IEEE 802.1X, TACACS+, SSH, HTTPS and SNMP v3**
• STP/RSTP/MSTP for network redundancy further ensures reliability

Layer 3: Managed industrial rack mount Ethernet switch *(100 to 240VAC / 125 to 370VDC)*

type	no. ports	DI	DO (relay)	power input	operating temperature	description
DVS-G928W01	4	–	2	2	-40...+85ºC	L3 managed ETH switch

	module slot					no ports	
	M1	M2	M3	M4			
DVS-G900-8GE	•	•	•	–	-40...+85ºC	8	RJ45 ETH module
DVS-G900-6GM12	•	•	•	–	-40...+85ºC	6	M12 ETH module
DVS-G900-8GF	•	•	•	–	-40...+85ºC	8	SPF ETH module
DVS-G900-4GF	–	–	–	•	-40...+85ºC	4	SFP ETH module

DX-series - Industrial cloud solutions *input: 24 VDC*

• Data acquisition equipment connected to DIA cloud servers
• Supports a two-way data collection channel between the device and the cloud
• Various peripheral interfaces include RS-485, RS-232 and LAN ports
• Built-in RTC and supports NTP time synchronization over a network
• Supports TCP/IP, UDP, ICMP, DHCP, HTTP, DNS, SSH, TCP and Modbus RTU protocols

Industrial Ethernet cloud router *(4-Port LAN FE + 1-Port WAN FE + 1 RS-232 + 1 RS-485)*

The DX-2310LN is an IoT wired communication product of industrial grade. Includes Ethernet, RS232 and RS485 interfaces.

• Flexible connection method over WAN ports, e.g. static IP, DHCP client and more

type	no. ports	DI	DO (relay)	power input	operating temperature	description
DX-2310LN	5	–	–	1	-20...+70ºC	cloud based VPN router

Industrial 4G cloud router *(1-Port Lan + 1-Port WAN/LAN + 1-Port RS-485 + 1-Port RS-232)*

The DX-2400L9 industrial router supports multiple mobile networks and provides internet access via WAN and cellular connections. It includes Ethernet, RS232, and RS485 interfaces

• Connect to AWS IoT MQTT Broker through MQTT protocol
• Universal LTE-FDD and LTE-TDD frequency bands
• Connect to internet through 4G cellular network or WAN broadband interfaces

type	no. ports	DI	DO (relay)	power input	operating temperature	description
DX-2400L9	2	–	–	1	-20...+70ºC	4G/WAN cloud router

Industrial 3/4G/WAN *(1-Port WAN + 4-Port LAN + 1-Port RS-232 + 1-Port RS-485)*

• USB port can accept 3rd-party Wi-Fi USB adapter(only Realtek RTL8192EU driver supported)
• Universal 4G LTE-FDD and LTE-TDD frequency bands

type	no. ports	DI	DO (relay)	power input	operating temperature	description
DX-3021L9	5	2	2	1	-20...+70ºC	cloud based 4G/WAN router

Industrial fieldBus Delta solution

Industrial automation products for converting communication signals of automation, servo and control devices. IFD communication modules are robust, high quality devices offering stable communication with in-built protection.

type	from	to	description

Ethernet to serial Modbus RS-232/485 Converters *(full isolation)*

type	from	to	description
IFD9506	RS-232/485	MODBUS TCP	converter *(inc. power supply)*

To configure IFD devices you need to install DCISoft

Serial to serial communication converters

type	from	to	description
IFD6500	USB	RS-485	converter *(no ext. power supply required)*
IFD6530	USB	RS-485	with 9V power supply *(115.2k bps Max.)*
IFD8500-A	RS-232	RS-422/485	RS-232 isolated converter
IFD8510	RS-485		isolated repeater/amplifier *(extends transmission to 1.2 km)*

IFD65xx requires special driver to work with Windows OS, available on Delta website.

CAN / DeviceNet to serial converters

type	from	to	description
IFD6503	USB	CAN	CAN to serial converter

Industrial communication devices

POLAR MONITORING

CE FC RoHS COMPLIANT IoT

Polar Monitoring - All-in-One Cloud-Based Monitoring

Polar Monitoring offers a comprehensive, cloud-based monitoring solution tailored for the agriculture, commercial, and industrial sectors.

type	supply voltage	network connection	connector type	description
Industrial LTE gateway			DIN mounting rail	**IP40**

LTE Gateways use the GSM/LTE mobile network to connect to the Polar Cloud Service. Gateways have a pre-installed SIM Card, managed by Polar Monitoring for user convenience.

- SIM: Pre-installed, no airtime/data required *(managed by Polar Monitoring)*
- Antenna Includes standard antenna (PM-A-2)

LTE solution

GL-PMGW-LTE	9 - 36 VDC	2G/LTE	terminal	LTE - Gateway *(within South Africa)*
Industrial Ethernet gateway			DIN mounting rail	**IP40**

The Ethernet Gateway requires an existing on site internet connection. It connects directly into an existing IP network via DHCP.

- DHCP client connects through firewall. No VPN or port forwarding required

Ethernet solution

GL-PMGW-ETH	9 - 36 VDC	Ethernet	terminal	Ethernet - Gateway
Industrial Edge gateway			DIN mounting rail	**IP40**

Glacier Edge has capabilities to store data locally and maintain on-site control even during an internet outage. It experiences no downtime due to network issues and automatically syncs any missing data with the cloud once the connection is restored.

- Key features: Dual Ethernet ports, GPS, Intel CPU 4-core 2.5Ghz, 4GB RAM, 126GB SSD, fan-less design, 4x isolated RS-485, Modbus TCP support, Virtual Com ports

Edge solution

GL-PMGW-GE	12 - 24 VDC	2G/LTE	terminal	Edge - Gateway

type	supply voltage	inputs (DI)	outputs (DO)	inputs (AI)	pulse counter
Industrial fieldbus solution			DIN mounting rail		**IP40**

The PM-MB4442 is a Remote I/O solution designed for use with the Polar Gateway via RS-485. This unit supports 4-20mA analog inputs, pulse counters, and Digital I/O, allowing you to conveniently monitor real-world variables in the Polar Cloud.

Remote I/O solution

PM-MB4442	12 - 24 VDC	4	4	4 (4-20mA)	2

Accessories *(for Polar related products)*

type	gain	mounting	cable	description
PM-A-2	2.5db	magnetic	2m	magnetic base antenna cable
PM-A-28	8db	bracket	5m	omni directional outdoor ant. cable

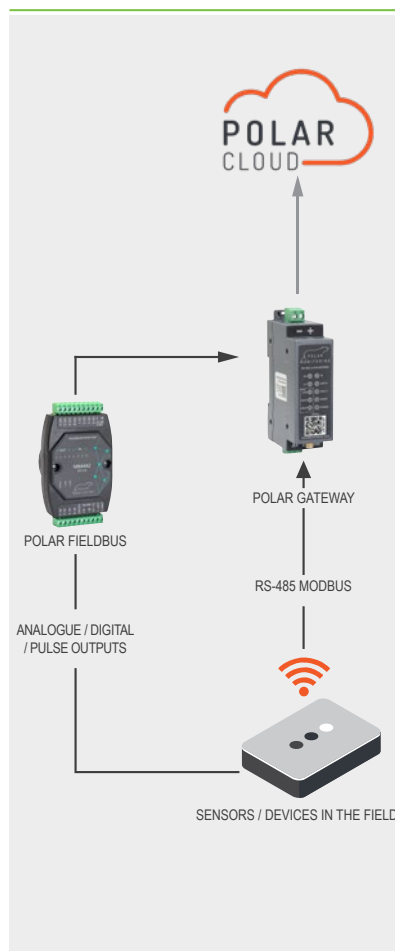| **Advanced remote monitoring and control solution**			*(H) 240 (W) 190 (D) 125*

The Polar Cube combines the Polar Monitoring LTE Gateway and the MB4442 module into an advanced remote monitoring and control system designed for easy installation and versatile application.

- Inputs/Output: 4x AI, 4x DO, 2x DI , 2x pulse counter
- Polar Cube requires Polar Cloud license

GL-CUBE-S	12-24 VDC or 230 VAC	2G/LTE	–	remote monitoring and control solution

Polar Cube - Applications & Uses

Applications

Boreholes   Water Treatment   Water Meter Readings   Backup Water Management   Remote Output   Access Control

GL-PMGW-LTE

NEW

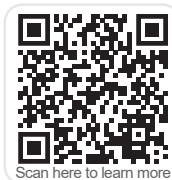**GL-PMGW-GE**

PM-MB4442

Polar Cube

Polar Cube

Polar Cloud - Software for Monitoring & Control

Polar Cloud serves as the backbone of the entire Polar Monitoring ecosystem. This user-friendly platform, in conjunction with the Polar Gateway, consolidates and displays crucial data from your field devices in a single location. It also provides the convenience of remote programming and system parameter adjustments.

The Polar Cloud is device and brand agnostic meaning one can monitor a multitude of different devices and brand types from one platform.

General features:
- Remote programming, monitoring, trending
- Alerts and notifications *(SMS and email)*
- Error codes and reporting
- Multiple user access rights
- Device agnostic *(Supports multiple types of devices and applications in one platform)* ☞

Scan here to learn more

POLAR CLOUD

POLAR GATEWAY

RS-485 MODBUS

POLAR FIELDBUS

ANALOGUE / DIGITAL / PULSE OUTPUTS

SENSORS / DEVICES IN THE FIELD

Pricing small to medium systems

	Polar Site Based Licencing				Subscription options		
Code	I/O tags	Alerts	Schedulers	Up to Gateways	1-Year	2-Year	3-Year
PL-Y-T15	15	2	4	1	–	–	–
PL-Y-T32	32	10	20	2	–	–	–
PL-Y-T50	50	16	32	5	–	–	–
PL-Y-T100	100	32	64	10	–	–	–
PL-Y-T150	150	46	92	20	–	–	–
PL-Y-T250	250	70	140	50	–	–	–
PL-Y-T500	500	130	260	100	–	–	–
PL-Y-T1000	1 000	200	400	250	–	–	–

*For **2** or **3** year licence option, replace **Y** with **2Y** or **3Y** to part number eg. **PL-2Y-T15** for a 2 year licence*

Extras

Additional tags, alerts and schedulers can be added to any licence above to extend the offering

| Code	description	price per year
PL-Y-AT-1	Additional Tag	–
PL-Y-AA-1	Additional Alerts	–
PL-Y-AS-1	Additional Schedulers	–

* *Glacier Edge Gateways require data bundles if connecting to the internet through the embedded SIM*
** *3rd party API available*

Polar Cloud - Software for Monitoring & Control

POLAR CLOUD

Remote Monitoring Solution

Live Viewing

Remote Commissioning
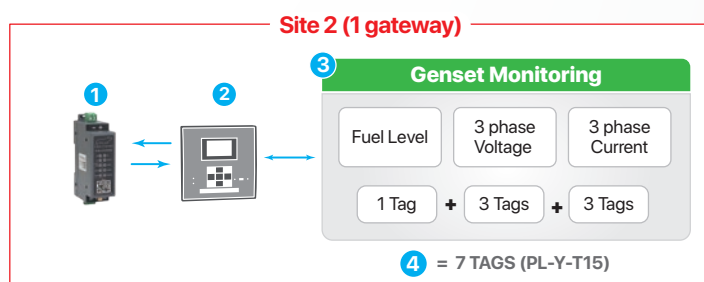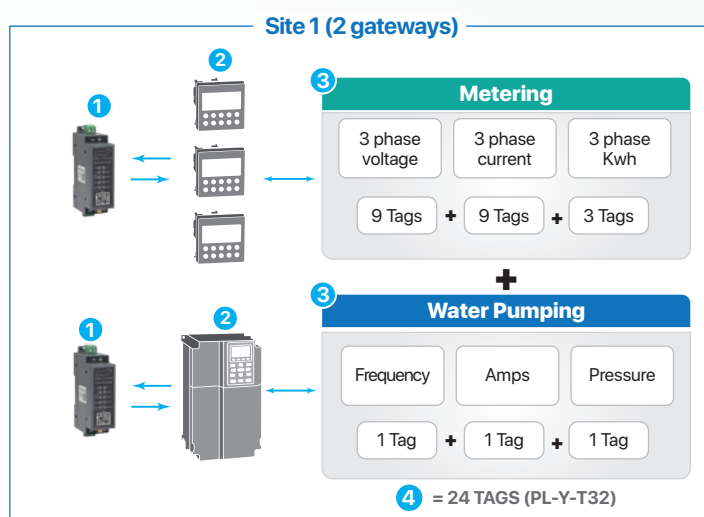
Alarm Notification

Data Storage
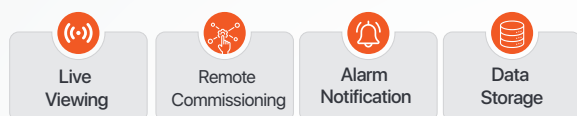
Polar Monitoring's new tag/site based licensing offers a flexible tag based pricing model. Below is an example of how the tag based model works and how you can implement it in your future projects and applications.

Step ❶ Choose Your Gateway (LTE Local, LTE International, or Ethernet)

Step ❷ Select Your Compatible RS485/Modbus RTU Device

Step ❸ Identify Your Monitoring Needs and Calculate Required Tags

Step ❹ Choose a License That Fits Your Requirements

Test the Polar Platform today! Access the Polar Demo Portal via the QR code for a hands-on experience of everything Polar has to offer.

Site 1 (2 gateways)

❷ ❸ **Metering**

3 phase voltage	3 phase current	3 phase Kwh
9 Tags +	9 Tags +	3 Tags

+

❸ **Water Pumping**

Frequency	Amps	Pressure
1 Tag +	1 Tag +	1 Tag

❹ = 24 TAGS (PL-Y-T32)

Site 2 (1 gateway)

❸ **Genset Monitoring**

Fuel Level	3 phase Voltage	3 phase Current
1 Tag +	3 Tags +	3 Tags

❹ = 7 TAGS (PL-Y-T15)

VTScada
by Trihedral

Powerful Simplicity

Monitor and Control your system from anywhere in the world

VTScada award-winning software trusted for real-time monitoring and control of industrial operations. Its user-friendly interface and advanced visualisation make it ideal for all users, ensuring operational excellence across industries.

Key Benefits:

- **User-Friendly Interface:** Designed for both technical and non-technical users.
- **Advanced Visualisation:** Clear and concise data presentation.
- **Scalability:** Ideal for both small and large operations.
- **Operational Excellence:** Reduce costs, enhance safety, increase uptime, and improve compliance.

Featured VTScada Industries

| Manufacturing | Water & Waste Water | Oil & Gas | Power Generation | Mining | ICT |

VTScada Successes

The City of Houston modernised its 400 MGD water purification plant expansion by implementing VTScada, providing real-time monitoring and control over its water and wastewater systems. This upgrade improved efficiency, reduced downtime, and enhanced reliability, ensuring continuous clean water delivery. The user-friendly interface also enabled the team to quickly adapt and optimise processes.

Scan to learn more

Bright Alloys, a ferrochrome smelter in South Africa, transformed into a more agile, sustainable, and efficient operation with the implementation of VTScada. This led to a one-third reduction in natural gas consumption, a 10% increase in furnace availability, and a 1% improvement in feed accuracy tolerance, driving better performance and reducing environmental impact.

Scan to learn more

A leading oil and gas producer modernised its operations with VTScada, enabling real-time monitoring and control across its complex infrastructure. This upgrade improved operational efficiency, reduced downtime, and enhanced safety, ensuring continuous production. The intuitive interface also allowed the team to quickly adapt and optimise processes.

Scan to learn more

VTScada by Trihedral - SCADA system

SCADA (Supervisory Control and Data Acquisition) software is essential for real-time monitoring and control of industrial processes. Providing operators with tools to manage equipment efficiently, analyse data and respond to system alerts. This ensures optimal performance, safety and reliability across various industries.

Advanced SCADA Monitoring and Control with user- friendly design

VTScada an intuitive SCADA software solution designed to simplify complex industrial processes. Combining real-time data acquisition, scalable architecture and integrated alarm management enhancing operational efficiency while reducing learning curves for engineers.

With a customisable interface and extensive support resources, offering a user-centric approach to industrial automation, ensuring that new and experienced users can leverage their full potential.

- Integrated Alarm Management: Real-time event detection to prevent disruptions
- Scalable Architecture: Seamless integration across all system sizes
- Customisable Interface: Tailor your HMI to specific requirements
- Built-in Protocols: Hundreds of device drivers for broad connectivity
- Data Sharing: Integrates external data from 3rd party systems for seamless control

type	development runtime	alarm notification	data sharing	thin clients			price
				1	5	∞	
VTScada development runtime (200 Tag combos)							
VTS-200DRTCANS	•	•	–	•	–	–	**–**
VTS-200DRULTCANS	•	•	–	–	–	•	**–**
Add additional thin clients (price per each thin client)							
VTS-200VIC01	–	–	–	•	–	–	**–**
Add 3rd party data sharing							
VTS-2003RD	–	–	•	–	–	–	**–**

Small to Medium Systems (up to 25,000 I/O Tags)

Designed to handle the complexities of large-scale industrial systems, VTScada offers robust scalability to manage thousands of I/O points seamlessly. Its architecture supports extensive data logging, high availability, and distributed systems across multiple locations.

Prices as per below table for custom builds

		A	B	C	D	S	T	U	V
type	tags	run time	development runtime	alarm notification	data sharing	thin clients			dual server premium*
						1	5	∞	
VTS-001Kx	1 000	–	–	–	–	–	–	–	–
VTS-005Kx	5 000	–	–	–	–	–	–	–	–
VTS-010Kx	10 000	–	–	–	–	–	–	–	–
VTS-025Kx	25 000	–	–	–	–	–	–	–	–

*Replace **X** above with **A, B, C, D, S, T, U** or **V** for the relevant software component - pricing for more than 25 000 tags available on request*

* **Dual Server Premium** for Enterprise-Level SCADA solutions for large-scale critical operations *(includes all of the features as below)*

Access and User Interaction:	Unlimited Thin Clients	Unlimited PC and mobile access for seamless large-scale operations
	Widgets and Graphics Library	Access thousands of pre-built industry-specific widgets
	Multi-User Scripting	Advanced scripting capabilities with hundreds of functions
	Idea Studio	Powerful development environment with on/offline and multi-user support

Data Management and Analysis:	High-Performance Historian	Capture and store extensive real-time data with ease
	Comprehensive Trending	Automatic trend analysis with no additional setup required
	Customisable Reporting	Generate tailored reports to meet all compliance needs
	DataLogger Support	Integrated logging for DF1, SCADAPack, and more

System Security and Redundancy:	Advanced Security	Robust, integrated security features for enterprise-level protection
	Backup Alarms and Event	Full redundancy for alarms and event logging
	Backup ODBC/OPC	Redundant ODBC and OPC servers for uninterrupted operations
	Backup Deployment	Redundant deployment tools for uninterrupted operations

Connectivity and Integration:	Common I/O Drivers	Supports Modbus, Siemens S7, Omron Host Link, Delta and more
	Advanced I/O Drivers	Includes DNP3, SNMP, Motorola ACE, and other advanced protocols
	Proprietary I/O Drivers	Supports DataFlow Systems and other proprietary protocols
	Data Sharing	ODBC Server, OPC Server, and Web Services for third-party integration
	Multi-Plant Support	Centralised management of multiple plants or locations

System Management and Support:	Resource Monitoring	Full system view with SNMP Agent for efficient resource management
	SupportPlus Year 1	Unlimited support, upgrades, and version compatibility
	Version Control	Automatic version control (for seamless updates and disaster recovery)
	Change Deployment	Remotely update all system components with a single click
	Alarms and Events Logging	Comprehensive logging of all system and user actions

World Class Innovation, Local Commitment

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