

# TRANSFORMER MONITORING SOLUTIONS

Complete transformer monitors for all parameters required to accurately track and control power transformers

**TM SERIES** 

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QUAL

Remote communications, integrated data logging and event recording capabilities

Seamless integration with Qualitrol Neoptix Fibers for direct winding temperature and DGA-150 for single gas hydrogen measurements QTMS SERIES



Advanced modular transformer monitors for condition based, continuous online monitoring of asset health

Bring all sensor data into one single monitoring solution, including Partial Discharge and Bushing monitoring

Bring data from multiple QTMS devices into a centralized location with scalable Qualitrol SmartSub enterprise software

# A Model for Every Application

### Advanced Transformer Monitoring Solutions

# ITM 505 | 507 | 509







INPUT OPTIONS	ITM 505	ITM 507	ITM 509
Number of inputs	(4) input modules	(4) input modules	(8) input Modules. (16 w/ expansion)
Input style	(1) signal per module	(1) signal per module	(1) signal per module
Input type	Input 1 - fixed as RTD input Input 2 - fixed as CT Input Inputs 3 & 4 - any analog or digital input	Any analog or digital input for each module	Any analog or digital input for each module
OUTPUTS	505	507	509
Relay outputs	<ul><li>(4) configurable relays</li><li>(1) system status relay</li></ul>	<ul><li>(4) configurable relays</li><li>(1) system status relay</li></ul>	(8) configurable relays (1) system status relay
ADVANCED FEATURES	505	507	509
Cooling monitoring	Bank switching	Bank switching	Cooling monitor Bank switching Seasonal setback Adaptive ambient control
LTC monitoring	n/a	n/a	Tap position and count Motor sensing Current sensing Alarm conditions
Fiber optics	n/a	Up to 2 hotspot modules (8 fibers per module)	Up to 2 hotspot modules (8 fibers per module)
Qualitrol DGA	Integration through analog input only	DGA150/250 integration via RS-485 TM1/3/8 integration via analog inputs	DGA150/250 integration via RS-485 TM1/3/8 integration via analog input
Bushing monitoring	n/a	n/a	n/a
Partial Discharge (PD)	n/a	n/a	n/a
COMMUNICATIONS / PROTOCOLS	505	507	509
Communications	(1) RS-485 serial port	(1) RS-485 serial port	<ol> <li>RS-485 serial port</li> <li>ST serial fiber optic port</li> <li>RJ45 Ethernet Port</li> <li>ST-TCP/IP fiber Ethernet port</li> </ol>
Protocols	DNP 3.0 Modbus ASCII	DNP 3.0 Modbus ASCII	DNP 3.0 Modbus ASCII IEC 61850 IEC 60870
Protocols SOFTWARE AND DATA STORAGE	Modbus	Modbus	Modbus ASCII
	Modbus ASCII	Modbus ASCII	Modbus ASCII IEC 61850 IEC 60870
SOFTWARE AND DATA STORAGE	Modbus ASCII 505	Modbus ASCII 507	Modbus ASCII IEC 61850 IEC 60870 509
SOFTWARE AND DATA STORAGE	Modbus ASCII 505 Loaded on PC	Modbus ASCII 507 Loaded on PC	Modbus ASCII IEC 61850 IEC 60870 509 Loaded on PC
SOFTWARE AND DATA STORAGE Software Advanced algorithms	Modbus ASCII 505 Loaded on PC Translife - loss of life	Modbus ASCII 507 Loaded on PC Translife - loss of life	Modbus ASCII IEC 61850 IEC 60870 509 Loaded on PC Translife - loss of life
SOFTWARE AND DATA STORAGE Software Advanced algorithms Event recording	Modbus ASCII 505 Loaded on PC Translife - loss of life n/a	Modbus ASCII 507 Loaded on PC Translife - loss of life n/a	Modbus ASCII IEC 61850 IEC 60870 509 Loaded on PC Translife - loss of life Up to 8 event parameters
SOFTWARE AND DATA STORAGE Software Advanced algorithms Event recording Data logging Storage capacity	Modbus ASCII 505 Loaded on PC Translife - loss of life n/a n/a	Modbus ASCII 507 Loaded on PC Translife - loss of life n/a Up to 10 parameters	Modbus ASCII IEC 61850 IEC 60870 509 Loaded on PC Translife - loss of life Up to 8 event parameters Up to 20 parameters
SOFTWARE AND DATA STORAGE Software Advanced algorithms Event recording Data logging	Modbus ASCII 505 Loaded on PC Translife - loss of life n/a n/a n/a	Modbus ASCII 507 Loaded on PC Translife - loss of life n/a Up to 10 parameters 32 MB	Modbus ASCII IEC 61850 IEC 60870 509 Loaded on PC Translife - loss of life Up to 8 event parameters Up to 20 parameters 32MB
SOFTWARE AND DATA STORAGE Software Advanced algorithms Event recording Data logging Storage capacity INSTALLATION & HARDWARE	Modbus ASCII 505 Loaded on PC Translife - loss of life n/a n/a n/a 505	Modbus ASCII 507 Loaded on PC Translife - loss of life n/a Up to 10 parameters 32 MB 507	Modbus ASCII IEC 61850 IEC 60870 509 Loaded on PC Translife - loss of life Up to 8 event parameters Up to 20 parameters 32MB 509
SOFTWARE AND DATA STORAGE Software Advanced algorithms Event recording Data logging Storage capacity INSTALLATION & HARDWARE Display	Modbus ASCII 505 Loaded on PC Translife - loss of life n/a n/a n/a 505 Front panel	Modbus ASCII 507 Loaded on PC Translife - loss of life n/a Up to 10 parameters 32 MB 507 Front panel	Modbus ASCII IEC 61850 IEC 60870 509 Loaded on PC Translife - loss of life Up to 8 event parameters Up to 20 parameters 32MB 509 Front panel

### Total Transformer Monitoring Solutions

# QTMS Series





INPUT OPTIONS         QTMS STX         QTMS MTX         QTMS LTX           Number of Inputs         Up to (1) modules, any configuration         Up to (2) modules, any configuration         Up to (1) modules         (14) signals per module         Analog or digital input module, Advanced sensor module         (2) Stanced sensor module         (2) Stanced sensor module         (3) Relays per module         (4) signals per module		0 00000 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	
Input style     (14) signals per module     (14) signals per module     (14) signals per module       Input type     Analog or digital input module     Analog or digital input module     Advanced sensor module     (14) signals per module     Advanced sensor module     (15) Relays per module     (16) Relays per module     (17) Relay outputs     (17) Relay per module     (18) Relay per module     (18) Relay per module     (18) Relay per module     (18) Relay per module     (17) Relay per module     (18) Relay per module     (18) Rela	INPUT OPTIONS	QTMS STX	QTMS MTX	QTMS LTX
Input type     Analog or digital input module     Analog or digital input module     Analog or digital input module       OUTPUTS     STX     MTX     LTX       Relay outputs     (8) Relays per module     (9) Relays per module	Number of inputs	Up to (4) modules, any configuration	Up to (7) modules, any configuration	Up to (14) modules, any configuration
Advanced sensor module     Advanced sensor module     Advanced sensor module       OUTPUTS     STX     MTX     LTX       Relay outputs     (8) Relays per module Up to (10 modules     (9) Relays per module Up to (10 modules       ADVANCED FEATURES     STX     MTX     LTX       Cooling monitoring     Cooling monitor Bank switching Seasonal setback     Cooling monitor Adaptive ambient control     Cooling monitor Adaptive ambient control     Cooling monitor Adaptive ambient control     Cooling monitor Adaptive ambient control     Tap position and count Motor sensing Current sensing Alarm conditions     Motor sensing Current sensing     Motor sensing Current sensing     Motor sensing Current sensing     Motor sensing       Qualitrol DGA     TM1, TM3, TM8 compatible     TM1, TM3, TM8 compatible     TM1, TM3, TM8 compatible     TM1, TM3, TM8 compatible       Bushing monitoring     Up to 6 bushing taps	Input style	(14) signals per module	(14) signals per module	(14) signals per module
Relay outputs     (8) Relays per module Up to (4) modules     (8) Relays per module Up to (7) modules     (9) Relays per module Up to (14) modules       ADVANCED FEATURES     STX     MTX     LTX       Cooling monitoring     Cooling monitor Bank switching Seasonal setback Adaptive ambient control     Cooling monitor Bank switching Seasonal setback     Cooling monitor Bank Switching Seasonal setba	Input type	· · ·	· · ·	
Up to (4) modulesUp to (7) modulesUp to (7) modulesUp to (7) modulesADVANCED FEATURESSTXMTXLTXCooling monitorBank switchingBank switchingBank switchingSeasonal setbackSeasonal setbackAdaptive ambient controlAdaptive ambient controlTap position and countTap position and countMotor sensingMotor sensingCurrent sensingCurrent sensingAlarm conditionsAlarm conditionsAlarm conditionsAlarm conditionsAlarm conditionsMater sensingQualitrol DGATM1, TM3, TM8 compatibleTM1, TM3, TM8 compatibleTM1, TM3, TM8 compatiblePartial Discharge (PD)UPI 6 bushing tapsUp to 6 bushing tapsUp to 6 bushing tapsPartial Discharge (PD)UPI FD measurementsUHF PD measurementsUF CommunicationsCommunicationsC1) STTCP/IP fiber Ethernet port(1) RJ45 Ethernet port(1) RJ45 Ethernet portProtocolsDNP 3.0 ModulesModusIEC 61850 w/GOOSEIEC 61850 w/GOOSESoftwareWe based interfaceWeb based interfaceWeb based interfaceAdvanced algorithmsTranslife - loss of life Bubbing tapsTranslife - loss of life Bubbing tapsTM2SoftwareID 100 parametersUp to 100 parametersAvailed GB Bavalable)Advanced algorithmsTranslife - loss of life Bubbing temperature Actual lossesTranslife - loss of life Bubbing temperature Actual lossesAds (G G Bavalable)Event recordingn/an/an/an/aAd	OUTPUTS	STX	МТХ	LTX
Cooling monitoring     Cooling monitor     Bark switching     Seasonal setback     Cooling monitor     Bark switching       Seasonal setback     Adaptive ambient control     Tap position and count     Map position and count     Map position and count       Motor sensing     Current sensing     Current sensing     Motor sensing     Motor sensing       Qualitrol DGA     TM1, TM3, TM8 compatible     TM1, TM3, TM8 compatible     TM1, TM3, TM8 compatible     TM1, TM3, TM8 compatible       Bushing monitoring     Up to 6 bushing taps       Partial Discharge (PD)     UHF PD measurements     UHF PD measurements     UHF PD measurements     UHF PD measurements       Constructions     (1) RJ45 Ethernet port     (1) RJ45 Ethernet port     (1) RJ45 Ethernet port     (1) RJ45 Ethernet port       Protocols     DNP 3.0     Modbus     Modbus     Etc 6 0870     DNP 3.0       Etc 6 0870     Tmasifier -loss of life     Tmasifier -loss of life     Bubbling temperature       Advanced algorithms     Marci 100 parameters     Up to 100 parameters     Actual losses       Etc fileser of transformer     Fileser of transformer     Fileser of transformer     Etc 61870       Software     Web based interface     Web based interface     Web based interface       Advanced algorithms	Relay outputs			
Bank switching Seasonal setback Adaptive ambient controlBank switching Seasonal setback Adaptive ambient controlBank switching Seasonal setback Adaptive ambient controlLTC monitoringTap position and count Motor sensing Current sensing Alarn conditionsTap position and count Motor sensing Current sensing Current sensing Alarn conditionsTap position and count Motor sensing Current sensing Alarn conditionsTap position and count Motor sensing Current sensing Alarn conditionsFiber optics(4, 6, or 8) fibers per module Up to (7) modules(4, 6, or 8) fibers per module Up to (7) modules(4, 6, or 8) fibers per module Up to (7) modulesQualitrol DGATM1, TM3, TM8 compatibleTM1, TM3, TM8 compatibleTM1, TM3, TM8 compatibleBushing monitoringUp to 6 bushing tapsUp to 6 bushing tapsUP to 6 bushing tapsPartial Discharge (PD)UHF PD measurementsUHF PD measurementsUHF PD measurementsCOMMUNICATIONS / PROTOCOLSSTXMTXTXCommunications(1) ST-TCP/IP fiber Ethernet port (1) ST-TCP/IP	ADVANCED FEATURES	STX	МТХ	LTX
Motor sensing Current sensing Alarm conditionsMotor sensing Current sensing Alarm conditionsMotor sensing Current sensing Alarm conditionsMotor sensing Current sensing Alarm conditionsFiber optics(4, 6, or 8) fibers per module Up to (1 wodules(4, 6, or 8) fibers per module Up to (1 wodules(1 (1 + 1) (	Cooling monitoring	Bank switching Seasonal setback	Bank switching Seasonal setback	Bank switching Seasonal setback
Up to (4) modulesUp to (7) modulesUp to (14) modulesQualitrol DGATM1, TM3, TM8 compatibleTM1, TM3, TM8 compatibleTM1, TM3, TM8 compatibleBushing monitoringUp to 6 bushing tapsUp to 6 bushing tapsUp to 6 bushing tapsPartial Discharge (PD)UHF PD measurementsUHF PD measurementsUHF PD measurementsCOMMUNICATIONS / PROTOCOLSSTXMTXLTXCommunications(1) RJ45 Ethernet port (1) STTCP/IP fiber Ethernet portNodbus (EC 61850 w/GOOSE (EC 60870Nodbus (EC 61850 w/GOOSE (EC 60870Nodbus (EC 61850 w/GOOSE (EC 60870Nodbus (EC 61850 w/GOOSE (EC 60870Transife-loss of life Bubbling temperature Actual losses (Eekage rate of bushing Efficiency of transf	LTC monitoring	Motor sensing Current sensing	Motor sensing Current sensing	Motor sensing Current sensing
Bushing monitoringUp to 6 bushing tapsUp to 6 bushing tapsUp to 6 bushing tapsPartial Discharge (PD)UHF PD measurementsUHF PD measurementsUHF PD measurementsCOMMUNICATIONS / PROTOCOLSSTXMTXLTXCommunications(1) RJ45 Ethernet port (1) ST-TCP/IP fiber Ethernet port 	Fiber optics			
Partial Discharge (PD)UHF PD measurementsUHF PD measurementsUHF PD measurementsCOMMUNICATIONS / PROTOCOLSSTXMTXLTXCommunications(1) RJ45 Ethernet port (1) ST-TCP/IP fiber Ethernet port (1) ST-TCP/IP fiber Ethernet port(1) RJ45 Ethernet port (1) ST-TCP/IP fiber Ethernet port (1) ST-TCP/IP fiber Ethernet port (1) ST-TCP/IP fiber Ethernet port(1) RJ45 Ethernet port (1) ST-TCP/IP fiber Ethernet port (1) ST-TCP/IP fiber Ethernet portProtocolsDNP 3.0 Modbus IEC 61850 w/GOOSE IEC 60870DNP 3.0 Modbus IEC 61850 w/GOOSE IEC 60870DNP 3.0 Modbus IEC 61850 w/GOOSE IEC 60870DNP 3.0 Modbus IEC 61850 w/GOOSE IEC 60870SOFTWARE AND DATA STORAGESTXMTXLTXSoftwareWeb based interfaceWeb based interfaceWeb based interfaceAdvanced algorithmsTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerUp to 100 parametersEvent recordingn/an/an/aData loggingUp to 100 parametersUp to 100 parametersUp to 100 parametersStorage capacity4 GB (8 GB available)4 GB (8 GB available)4 GB (8 GB available)INSTALLATION & HARDWARESTXMTXLTXDisplayRemoteRemote or front panelReck Cabinet NEMA w/ pedestalMounting optionsRack Cabinet NEMA w/ pedestalCabinet NEMA w/ pedestalCabinet NEMA w/ pe	Qualitrol DGA	TM1, TM3, TM8 compatible	TM1, TM3, TM8 compatible	TM1, TM3, TM8 compatible
COMMUNICATIONS / PROTOCOLSSTXMTXLTXCommunications(1) RJ45 Ethernet port (1) ST-TCP/IP fiber Ethernet portProtocolsDNP 3.0 Modbus IEC 61850 w/GOOSE IEC 60870DNP 3.0 Modbus IEC 61850 w/GOOSE IEC 60870DNP 3.0 Modbus IEC 61850 w/GOOSE IEC 60870DNP 3.0 Modbus IEC 61850 w/GOOSE IEC 60870SOFTWARE AND DATA STORAGESTXMTXLTXSoftwareWeb based interfaceWeb based interfaceWeb based interfaceAdvanced algorithmsTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerIndaEvent recordingn/an/an/aData loggingUp to 100 parametersUp to 100 parametersUp to 100 parametersStorage capacity4 GB (8 GB available)4 GB (8 GB available)4 GB (8 GB available)INSTALLATION & HARDWARESTXMTXLTXDisplayRemoteRemoteRack Cabinet NEMA w/ pedestalRack Cabinet Cabinet NEMA w/ pedestalRack Cabinet Cabinet NEMA w/ pedestalRack Cab	Bushing monitoring	Up to 6 bushing taps	Up to 6 bushing taps	Up to 6 bushing taps
Communications(1) RJ45 Ethernet port (1) ST-TCP/IP fiber Ethernet port (1)	Partial Discharge (PD)	UHF PD measurements	UHF PD measurements	UHF PD measurements
(1) ST-TCP/IP fiber Ethernet port(1) ST-TCP/IP fiber Ethernet port(1) ST-TCP/IP fiber Ethernet portProtocolsDNP 3.0 Modbus IEC 61850 w/GOOSE IEC 61850 w/GOOSE IEC 61850 w/GOOSE IEC 60870DNP 3.0 Modbus IEC 61850 w/GOOSE IEC 61850 w/GOOSE IEC 60870DNP 3.0 Modbus IEC 61850 w/GOOSE IEC 60870SOFTWARE AND DATA STORAGESTXMTXLTXSoftwareWeb based interfaceWeb based interfaceWeb based interfaceAdvanced algorithmsTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerN/aEvent recordingn/an/an/aData loggingUp to 100 parametersUp to 100 parametersUp to 100 parametersStorage capacity4 GB (8 GB available)4 GB (8 GB available)4 GB (8 GB available)INSTALLATION & HARDWARESTXMTXLTXDisplayRemoteRemote or front panelRemote or front panelMounting optionsRack Cabinet NEMA w/ pedestalRack Cabinet NEMA w/ pedestalRack Cabinet Cabinet NEMA w/ pedestal	COMMUNICATIONS / PROTOCOLS	STX	МТХ	LTX
Modbus IEC 61850 w/G0OSE IEC 60870Modbus IEC 61850 w/G0OSE IEC 60870Modbus IEC 61850 w/G0OSE IEC 60870Modbus IEC 61850 w/G0OSE IEC 60870SOFTWARE AND DATA STORAGESTXMTXLTXSoftwareWeb based interfaceWeb based interfaceWeb based interfaceAdvanced algorithmsTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformer<	Communications			
SoftwareWeb based interfaceWeb based interfaceWeb based interfaceAdvanced algorithmsTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Mot 100 parametersEvent recordingn/an/an/aTranslife - loss of life Bubbling temperature Mot 8 (B & B available)Translife - loss of life Bubbling temperature Mot 8 (B & B availa	Protocols	Modbus IEC 61850 w/GOOSE	Modbus IEC 61850 w/GOOSE	Modbus IEC 61850 w/GOOSE
Advanced algorithmsTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerTranslife - loss of life Bubbling temperature 	SOFTWARE AND DATA STORAGE	STX	МТХ	LTX
Bubbling temperature Actual losses Leakage rate of bushing Efficiency of transformerBubbling temperature At us does International definitionBubbling temperature International definitionBubbling temperature International definitionINSTALLATION & HARDWARESTXMTX	Software	Web based interface	Web based interface	Web based interface
Data loggingUp to 100 parametersUp to 100 parametersUp to 100 parametersStorage capacity4 GB (8 GB available)4 GB (8 GB available)4 GB (8 GB available)INSTALLATION & HARDWARESTXMTXLTXDisplayRemoteRemote or front panelRemote or front panelMounting optionsRack Cabinet NEMA w/ pedestalRack Cabinet NEMA w/ pedestalRack Cabinet NEMA w/ pedestal	Advanced algorithms	Bubbling temperature Actual losses	Bubbling temperature Actual losses	Bubbling temperature Actual losses
Storage capacity     4 GB (8 GB available)     4 GB (8 GB available)     4 GB (8 GB available)       INSTALLATION & HARDWARE     STX     MTX     LTX       Display     Remote     Remote or front panel     Remote or front panel       Mounting options     Rack Cabinet NEMA w/ pedestal     Rack Cabinet NEMA w/ pedestal     Rack Cabinet NEMA w/ pedestal				
INSTALLATION & HARDWARE     STX     MTX     LTX       Display     Remote     Remote or front panel     Remote or front panel       Mounting options     Rack Cabinet NEMA w/ pedestal     Rack Cabinet NEMA w/ pedestal     Rack Cabinet NEMA w/ pedestal	Event recording	Efficiency of transformer	Efficiency of transformer	Efficiency of transformer
Display         Remote         Remote or front panel         Remote or front panel           Mounting options         Rack Cabinet NEMA w/ pedestal         Rack Cabinet NEMA w/ pedestal         Rack Cabinet NEMA w/ pedestal         Rack Cabinet NEMA w/ pedestal	, i i i i i i i i i i i i i i i i i i i	Efficiency of transformer n/a	Efficiency of transformer n/a	Efficiency of transformer n/a
Mounting options     Rack     Rack     Rack       Cabinet     Cabinet     Cabinet     Cabinet       NEMA w/ pedestal     NEMA w/ pedestal     NEMA w/ pedestal	Data logging	Efficiency of transformer n/a Up to 100 parameters	Efficiency of transformer n/a Up to 100 parameters	Efficiency of transformer n/a Up to 100 parameters
Cabinet Cabinet Cabinet NEMA w/ pedestal	Data logging Storage capacity	Efficiency of transformer n/a Up to 100 parameters 4 GB (8 GB available)	Efficiency of transformer n/a Up to 100 parameters 4 GB (8 GB available)	Efficiency of transformer n/a Up to 100 parameters 4 GB (8 GB available)
Wiring Front of unit Front of unit Front of unit	Data logging Storage capacity INSTALLATION & HARDWARE	Efficiency of transformer n/a Up to 100 parameters 4 GB (8 GB available) STX	Efficiency of transformer n/a Up to 100 parameters 4 GB (8 GB available) MTX	Efficiency of transformer n/a Up to 100 parameters 4 GB (8 GB available) LTX
	Data logging Storage capacity INSTALLATION & HARDWARE Display	Efficiency of transformer n/a Up to 100 parameters 4 GB (8 GB available) STX Remote Rack Cabinet	Efficiency of transformer n/a Up to 100 parameters 4 GB (8 GB available) MTX Remote or front panel Rack Cabinet	Efficiency of transformer n/a Up to 100 parameters 4 GB (8 GB available) <b>LTX</b> Remote or front panel Rack Cabinet



Qualitrol has over 20 years of transformer monitoring experience and is considered an industry leader



### Complete monitoring solutions

Qualitrol offers all necessary sensors for an easy and complete monitoring solution

## **Hil Configure** to precise requirements

Qualitrol's ITM and QTMS transformer monitoring solutions are both fully configurable for any application





#### Advanced monitoring

- Configurable from a basic temperature monitor to a complete transformer monitoring system
- Perfect for retrofitting old mechanical gauges and adding remote communications to your asset
- Includes advanced cooling monitoring features to ensure your systems are operating at optimal parameters
- Seamless integration with other
   Qualitrol sensors



#### **Total monitoring**

- Feature packed, modular system to cover any advanced monitoring needs
- Includes advanced sensor options including Bushing and Partial Discharge monitoring all in one package
- By bringing many sensors into one system, the QTMS can provide a snapshot of transformer health to aid in condition based maintenance
- Can accommodate a large number of I/O signals in a small footprint, monitor multiple transformers

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