

POWER TRANSDUCERS MT/UMT 510
RECORDER MT/UMT 511



- ALL SINGLE-PHASE AC NETWORK MEASUREMENTS
- VOLTAGE AND CURRENT AUTO RANGE MEASUREMENTS UP TO 600 V_{L-N}, 12.5 A
- WIDE FREQUENCY MEASUREMENT RANGE 16 - 400 Hz
- POWER ACCURACY CLASS 0.2 (IEC-688), 0.1 ON COMMUNICATION
- 8 MB FLASH INTERNAL MEMORY; (U)MT 511 ONLY
- RECORDING OF UP TO 8 MEASURANDS AND 16 ALARMS IN THE INTERNAL MEMORY (8 MB FLASH); (U)MT 511 ONLY
- SERIAL OR ETHERNET & USB & RS485 COMMUNICATION
- UP TO TWO I/O MODULES (ANALOGUE OUTPUT, ALARM OUTPUT, PULSE OUTPUT, DIGITAL INPUT, DIGITAL OUTPUT)
- PROGRAMMABLE ANALOGUE OUT; 6 VOLTAGE AND CURRENT RANGES, NON-LINEAR CHARACTERISTIC
- USER-FRIENDLY PC SETTING SOFTWARE (MiQEN)

CURRENT TRANSDUCERS MT/UMT 518
VOLTAGE TRANSDUCERS MT/UMT 516



- TRUE RMS AC CURRENT (U)MT 518 AND AC VOLTAGE (U)MT 516 MEASUREMENTS
- VOLTAGE AND CURRENT AUTO RANGE MEASUREMENTS UP TO 600 V_{L-N}, 12.5 A
- WIDE FREQUENCY MEASUREMENT RANGE 16 - 400 Hz
- HIGH ACCURACY CLASS 0.2 (IEC-688), 0.1 ON COMMUNICATION
- SERIAL OR ETHERNET & USB & RS485 COMMUNICATION
- UP TO TWO I/O MODULES (ANALOGUE OUTPUT, ALARM OUTPUT, PULSE OUTPUT, DIGITAL INPUT, DIGITAL OUTPUT)
- PROGRAMMABLE ANALOGUE OUT; 6 VOLTAGE AND CURRENT RANGES, NON-LINEAR CHARACTERISTIC
- USER-FRIENDLY PC SETTING SOFTWARE (MiQEN)

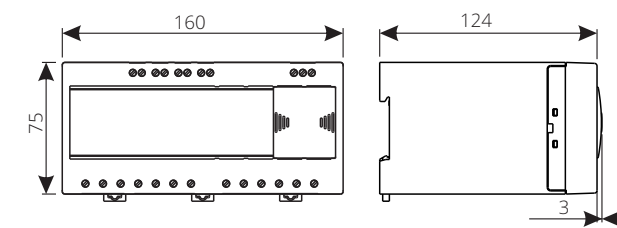
ANALOGUE EXTENDER EX 104



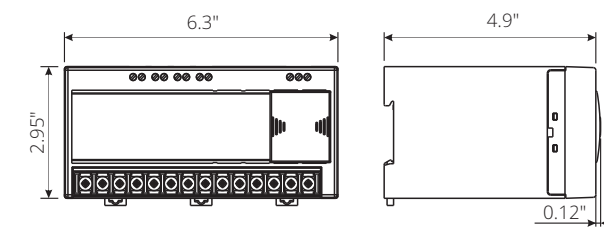
- 4 ANALOGUE OUTPUTS MODULES
- PROGRAMMABLE OUTPUTS
- LOW POWER CONSUMPTION
- WIDE RANGE UNIVERSAL AC/DC AUXILIARY POWER SUPPLY
- TYPICAL ACCURACY CLASS 0.5
- SERIAL COMMUNICATION RS485 (VERY HIGH SPEED DATA RATE: UP TO 115.200 bit/s, MODBUS PROTOCOL)

DIMENSIONAL DRAWINGS

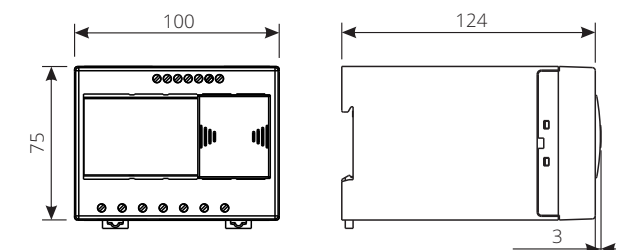
MT 5x0



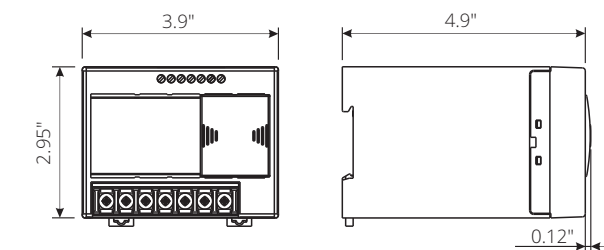
UMT 5x0



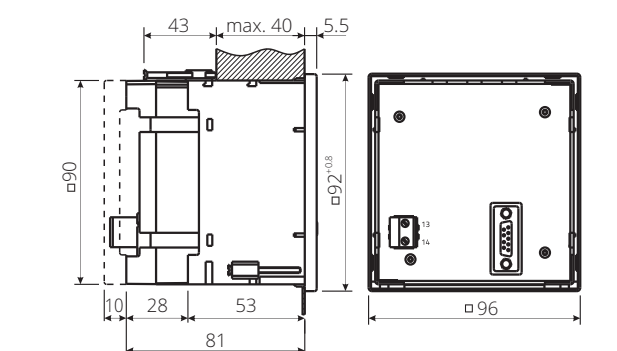
MT 51x



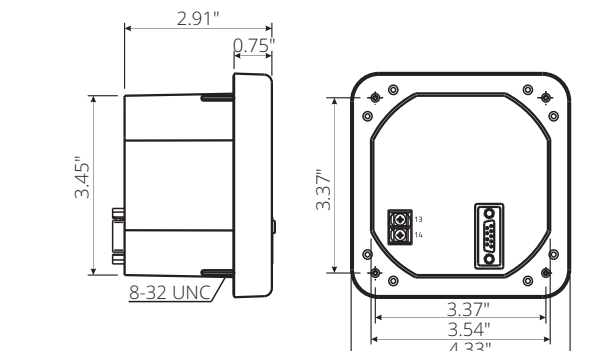
UMT 51x



RD 500



URD 500



MEASURING TRANSDUCERS MT/UMT 5xx

- RELEVANT FOR MEASURING AND MONITORING SINGLE PHASE OR THREE-PHASE ELECTRICAL POWER NETWORK

MEASURING TRANSDUCER MT/UMT 5X0 ARE INTENDED FOR MEASURING, ANALYSING AND MONITORING A SINGLE-PHASE OR THREE-PHASE ELECTRICAL POWER NETWORK. TRANSDUCERS MT/UMT 51X ARE INTENDED FOR MEASURING AND MONITORING SINGLE-PHASE ELECTRICAL POWER NETWORK. THE INSTRUMENTS MEASURE A TRUE RMS VALUE BY MEANS OF FAST SAMPLING OF VOLTAGE AND CURRENT SIGNALS, WHICH MAKES THEM SUITABLE FOR THE ACQUISITION OF TRANSIENT EVENTS. A BUILT-IN MICROCONTROLLER CALCULATES MEASURANDS (VOLTAGE, CURRENT, FREQUENCY, ENERGY, POWER, POWER FACTOR, THD PHASE ANGLES, THD U, THD I, MD, ETC.) FROM THE MEASURED SIGNALS.

TRANSDUCERS & ANALYZER MT/UMT 560

- EVALUATION OF THE ELECTRICITY SUPPLY QUALITY IN COMPLIANCE WITH EN 50160
- VOLTAGE AND CURRENT AUTO RANGE MEASUREMENTS UP TO 600 V_{L-N}, 12.5 A
- WIDE FREQUENCY MEASUREMENT RANGE 16 - 400 Hz
- POWER ACCURACY CLASS 0.2 (IEC-688), 0.1 ON COMMUNICATION
- 32ADJUSTABLE ALARMS
- UP TO THREE INDEPENDENT COMMUNICATION PORTS (SERIAL OR ETHERNET & USB & RS485 COMMUNICATION)
- UP TO FOUR I/O MODULES (ANALOGUE OUTPUT, ALARM OUTPUT, PULSE OUTPUT, DIGITAL OUTPUT, DIGITAL INPUT, TARIFF INPUT, ANALOGUE INPUT, PULSE INPUT)
- PROGRAMMABLE ANALOGUE OUTPUT; 6 VOLTAGE AND CURRENT RANGES, NON-LINEAR CHARACTERISTICS
- USER-FRIENDLY PC SETTING SOFTWARE (MiQEN)

TRANSDUCERS & RECORDER MT/UMT 550

- VOLTAGE AND CURRENT AUTO RANGE MEASUREMENTS UP TO 600 V_{L-N}, 12.5 A
- WIDE FREQUENCY MEASUREMENT RANGE 16 - 400 Hz
- POWER ACCURACY CLASS 0.2 (IEC-688), 0.1 ON COMMUNICATION
- 32ADJUSTABLE ALARMS
- UP TO THREE INDEPENDENT COMMUNICATION PORTS (SERIAL OR ETHERNET & USB & RS485 COMMUNICATION)
- UP TO FOUR I/O MODULES (ANALOGUE OUTPUT, ALARM OUTPUT, PULSE OUTPUT, DIGITAL OUTPUT, DIGITAL INPUT, TARIFF INPUT, ANALOGUE INPUT, PULSE INPUT)
- PROGRAMMABLE ANALOGUE OUTPUT; 6 VOLTAGE AND CURRENT RANGES, NON-LINEAR CHARACTERISTICS
- USER-FRIENDLY PC SETTING SOFTWARE (MiQEN)

MULTIFUNCTION TRANSDUCERS MT/UMT 540

- MEASUREMENTS OF INSTANTANEOUS VALUES OF MORE THAN 140 QUANTITIES
- MEASUREMENTS OF 40 MIN. AND MAX. VALUES IN DIFFERENT TIME PERIODS
- 32ADJUSTABLE ALARMS
- WIDE FREQUENCY MEASUREMENT RANGE 16 - 400 Hz
- POWER ACCURACY CLASS 0.2 (IEC-688), 0.1 ON COMMUNICATION
- RS232/485 OR ETHERNET & USB & RS485 COMMUNICATION
- UP TO FOUR I/O MODULES (ANALOGUE OUTPUT, ALARM OUTPUT, PULSE OUTPUT, DIGITAL OUTPUT, DIGITAL INPUT, TARIFF INPUT, ANALOGUE INPUT, PULSE INPUT)
- AUTOMATIC RANGE OF NOMINAL CURRENT AND VOLTAGE, (MAX. 12.5 A AND 600 V_{L-N})
- USER-FRIENDLY PC SETTING SOFTWARE (MiQEN)

REMOTE DISPLAY RD/URD 500

A REMOTE DISPLAY IS VERY USEFUL FOR A QUICK LOOK-UP TO ALL MEASURED PARAMETERS OR FOR SETTING UP THE MT/UMT 5X0 MEASURING TRANSDUCERS WITHOUT THE PC. A GRAPHICAL DISPLAY WITH THE RESOLUTION OF 128x64 ENABLES GRAPHICAL REPRESENTATION OF SIGNALS AND PARAMETERS.

- NETWORK CONNECTION FOR UP TO 32 TRANSDUCERS
- RS485 COMMUNICATION
- RS232/485 OR ETHERNET OR ETHERNET & USB COMMUNICATION
- UNIVERSAL POWER SUPPLY 48 - 276 V AC, 20 - 300 V DC
- GRAPHICAL LCD 128 x 64 DOTS
- MULTILINGUAL SUPPORT



FAMILY OF MT/UMT 5x0 MEASURING TRANSDUCERS

POSSIBLE USE OF MEASURING TRANSDUCERS

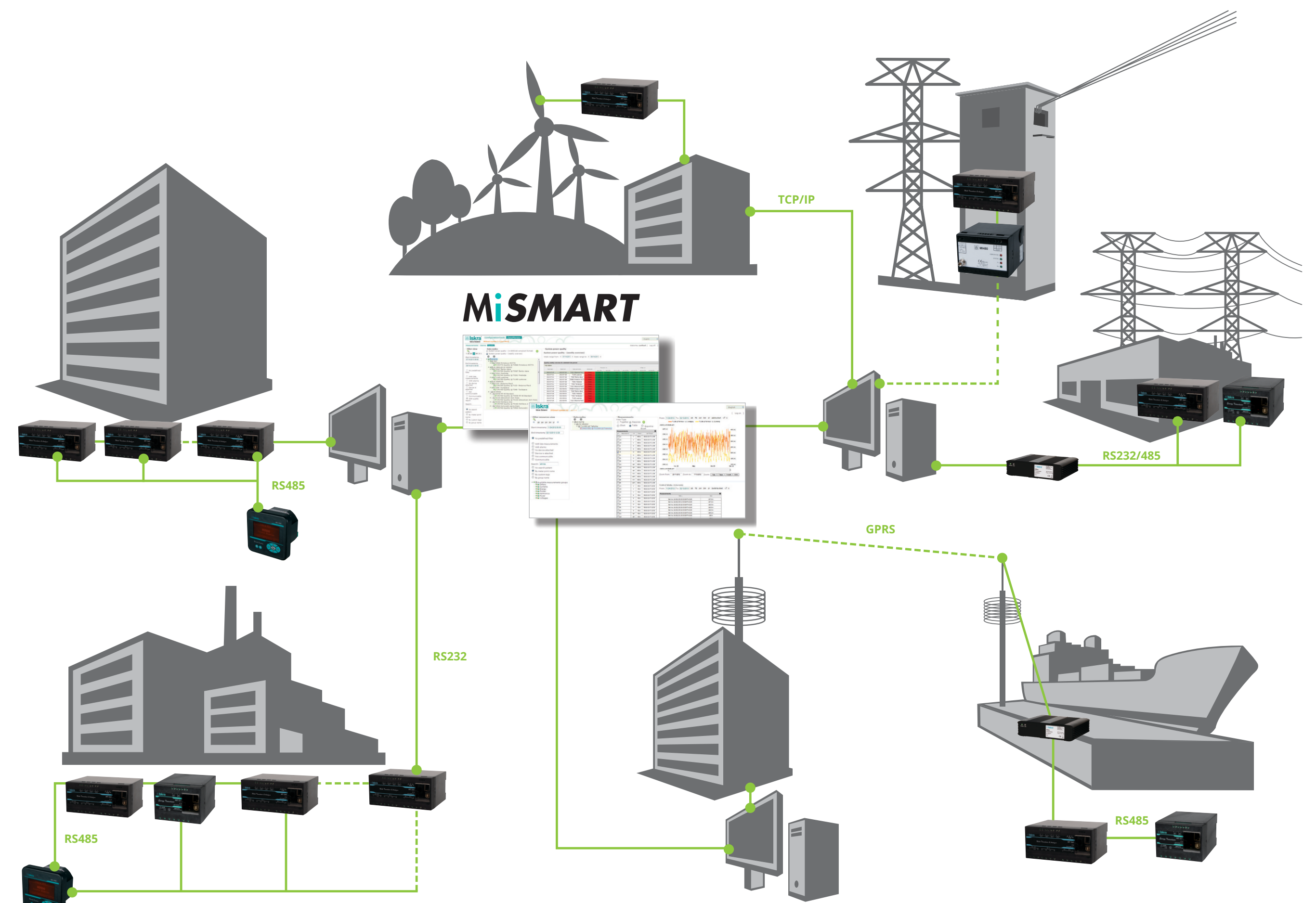
FAMILY OF MT/UMT 51x MEASURING TRANSDUCERS

TECHNICAL DATA	MULTIFUNCTION TRANSDUCER	TRANSDUCER & RECORDER	TRANSDUCER & ANALYZER	REMOTE DISPLAY
HOUSING				
DIN TYPE	MT 540	MT 550	MT 560	
ANSI TYPE	UMT 540	UMT 550	UMT 560	RD/URD 500
HARDWARE CONFIGURATION				
ACCURACY CLASS (TYPICAL, OF READING), %	0.2	0.2	0.2	-
POWER SUPPLY	Uni-LO / Uni-HI *	Uni-LO / Uni-HI *	Uni-LO / Uni-HI *	24...300 V DC, 48...276 V AC
ENERGY COUNTERS	4	4	4	-
REAL TIME CLOCK	•	•	•	-
REMOTE DISPLAY CONNECTION ***	•	•	•	-
FLASH MEMORY SIZE	•	8 MB	8 MB	-
AUTORANGE CURRENT	•	•	•	-
AUTORANGE VOLTAGE	•	•	•	-
INPUT RANGE				
CURRENT - In = 5 A, max. 12 A	•	•	•	-
VOLTAGE - Un = 500V _{U₀} , max. 750 V _{U₀} sin	•	•	•	-
FREQUENCY - 16 2/3 Hz OR 45 TO 65 Hz OR 300 Hz OR 400 Hz	•	•	•	-
COMMUNICATION				
COMMUNICATION PORTS	1 STANDARD + 1 OPTIONAL ***	1 STANDARD + 1 OPTIONAL ***	1 STANDARD + 1 OPTIONAL ***	1 STANDARD
COMM. TYPE: SERIAL (RS485 + RS232)/ETHERNET & RS485 & USB**	•/•	•/•	•/•	RS485
COMM. PROTOCOL: MODBUS (RTU, TCP) AND DNP3	•/•	•/•	•/•	Modbus RTU
INPUTS / OUTPUTS				
I/O 1: AN / DI / DO / PO / TI / AL / AI / PI / WO	•/•/•/•/•/•/•/•	•/•/•/•/•/•/•/•	•/•/•/•/•/•/•/•	-
I/O 2: AN / DI / DO / PO / TI / AL / AI / PI / WO	•/•/•/•/•/•/•/•	•/•/•/•/•/•/•/•	•/•/•/•/•/•/•/•	-
I/O 3: AN / DI / DO / PO / AL / AI / PI / WO	•/•/•/•/•/•/•/•	•/•/•/•/•/•/•/•	•/•/•/•/•/•/•/•	-
I/O 4: AN / DI / DO / PO / AL / AI / PI / COM2** / WO	•/•/•/•/•/•/•/•	•/•/•/•/•/•/•/•	•/•/•/•/•/•/•/•	-
AVAILABLE FUNCTIONS				
PROGRAMMABLE REFRESH TIME (COMMUNICATION)	•	•	•	-
MD CALCULATION (TF, FW, SW)	•	•	•	-
TARIFF CLOCK	•	•	•	-
COST MANAGEMENT	•	•	•	-
PROGRAMMABLE ALARMS	32	32	32	-
ALARMS RECORDING	-	•	•	-
MEASUREMENTS RECORDING	-	•	•	-
POWER SUPPLY QUALITY EN 50160	-	-	-	-
PC-SOFTWARE	MiQen	MiQen	MiQen	-
AVAILABLE MEASUREMENTS				
ACTUAL VALUES: U, I, P, Q, S, PF, PA, f, φ	•	•	•	-
ENERGY	•	•	•	-
MAXIMUM DEMANDS	•	•	•	-
MINIMUM VALUES: U, I, P, Q, S, PF, PA, f, φ	•	•	•	-
MAXIMUM VALUES: U, I, P, Q, S, PF, PA, f, φ	•	•	•	-
THD	•	•	•	-
HARMONICS	63 rd	63 rd	63 rd	-

* Uni-LO: LOW VOLTAGE (48...77 V AC, 19...70 V DC); Uni-HI: HIGH VOLTAGE (80...276 V AC, 70...300 V DC)
 ** WITH SOME LIMITS (SEE USER'S MANUAL MT/UMT 5x0)
 *** WITH SOME LIMITS (SEE USER'S MANUAL MT/UMT 5x0)

LEGEND: - FEATURE NOT SUPPORTED
 • STANDARD FEATURE
 ◊ OPTIONAL FEATURE
 / OR

AN - ANALOGUE OUTPUT
 DI - DIGITAL INPUT
 DO - DIGITAL OUTPUT
 AI - ANALOGUE INPUT
 SW - SLIDING WINDOW
 TF - THERMAL FUNCTION
 WO - WATCHDOG OUTPUT
 AL - ALARM OUTPUT
 FW - FIXED WINDOW
 TI - TARIFF INPUT
 PO - PULSE OUTPUT
 PI - PULSE INPUT



TECHNICAL DATA	POWER TRANSDUCER	POWER TRANSDUCER & RECORDER	VOLTAGE TRANSDUCER	TRANSDUCER & ANALYZER
HOUSING				
DIN TYPE	MT 510	MT 511	MT 516	MT 518
ANSI TYPE	UMT 510	UMT 511	UMT 516	UMT 518
HARDWARE CONFIGURATION				
ACCURACY CLASS (TYPICAL, OF READING), %	0.2	0.2	0.2	0.2
POWER SUPPLY	Uni-LO / Uni-HI *	Uni-LO / Uni-HI *	Uni-LO / Uni-HI *	Uni-LO / Uni-HI *
ENERGY COUNTERS	4	4	4	4
REAL TIME CLOCK	-	•	-	-
FLASH MEMORY SIZE	-	8 MB	-	-
AUTORANGE CURRENT	•	•	-	•
AUTORANGE VOLTAGE	•	•	•	-
INPUT RANGE				
CURRENT - In = 5 A, max. 12 A	•	•	•	•
VOLTAGE - Un = 500V _{U₀} , max. 1.2 x U ₀ , PERMANENTLY 2 x U ₀ , 10 s	•	•	•	•
FREQUENCY - 16 2/3 Hz OR 45 TO 65 Hz OR 300 Hz OR 400 Hz	•	•	•	•
COMMUNICATION				
COMMUNICATION PORTS	2 STANDARD	2 STANDARD	2 STANDARD	2 STANDARD
COMM. TYPE: SERIAL (RS485 + RS232) / USBÐERNET&RS485	•/•	•/•	•/•	•/•
COMM. PROTOCOL: MODBUS (RTU, TCP)	•	•	•	•
INPUTS / OUTPUTS				
I/O 1: AN / AL / PO / DI	•/•/•/•	•/•/•/•	•/•/•/•	•/•/•/•
I/O 2: AN / AL / PO / DI	•/•/•/•	•/•/•/•	•/•/•/•	•/•/•/•
AVAILABLE FUNCTIONS				
MODBUS PROTOCOL	•	•	•	•
MD CALCULATION	•	•	-	-
PROGRAMMABLE ALARMS	16	16	16	16
ALARMS RECORDING	-	•	-	-
MEASUREMENTS RECORDING	-	•	-	-
PC-SOFTWARE	MiQen	MiQen	MiQen	MiQen
AVAILABLE MEASUREMENTS				
ACTUAL VALUES: U / I	•/•	•/•	•/•	-/•
ACTUAL VALUES: P, Q, S, PF, f, φ	•/•/•/•/•	•/•/•/•/•	-/-/-/-/-	-/-/-/-/-
ENERGY	•	•	-	-
MAXIMUM DEMANDS	•	•	-	•
THD OF PHASE VOLTAGE	•	•	•	-
THD OF PHASE CURRENT	•	•	-	•

* Uni-LO: LOW VOLTAGE (48...77 V AC, 19...70 V DC); Uni-HI: HIGH VOLTAGE (80...276 V AC, 70...300 V DC)

LEGEND: - FEATURE NOT SUPPORTED
 • STANDARD FEATURE
 ◊ OPTIONAL FEATURE
 / OR

AN - ANALOGUE OUTPUT
 DI - DIGITAL INPUT
 DO - DIGITAL OUTPUT
 AL - ALARM OUTPUT
 PO - PULSE OUTPUT