




# Reliability for Cable Networks



**Product Catalogue 2009**

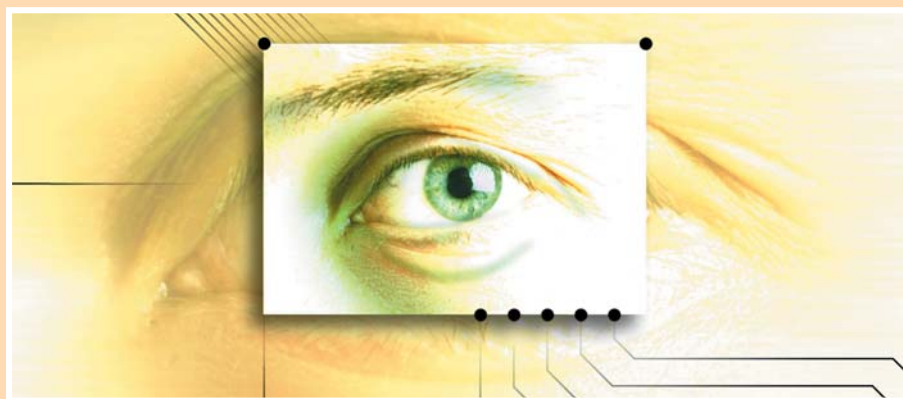
# Monitoring Stations

## Modem based Systems



Artikel	Description	Order no.
 <b>Monitoring Station IMS 101E</b>	Compact system in wall housing for insulation- and loop resistance monitoring Display + control panel, 10 measuring channels, 13 alarm contacts Supply voltage <b>38 .. 72 V DC</b> Supply voltage <b>24 V DC</b>	<b>061101.000</b> <b>061101.024</b>
 <b>Monitoring Station DW 101E</b>	Compact system in wall housing for universal monitoring tasks 16 measuring channels for 127 addressable sensors each Supply voltage <b>38 .. 72 V DC</b>	<b>056762.000</b>
 <b>Monitoring Station DW 1005E</b>	Modular system in 19" housing for universal monitoring tasks with 12 slots for measurement cards (not included) Included standard modules: power supply, CPU Card, and analogue modem communication interface <b>36 .. 75 V DC</b> (DC/DC power supply unit) <b>100 .. 250 V AC/45 .. 65 Hz</b> (AC/DC power supply unit)	<b>050585.000</b> <b>050585.008</b>

## Upgrade Kits for Monitoring Stations DW




Item	Description	Order no.
<b>Upgrade Kit DW 101E to MUX 101-DW</b>	to convert one existing compact monitoring station DW 101E to MUX 101-DW	<b>072781.000</b>
<b>Upgrade Kit DW 1005E to RTU</b>	to convert one existing 19" monitoring station DW 1005E to RTU	<b>072150.000</b>





## Modbus Systems

Item	Description	Order no.
 <b>Monitoring Station MOD 101-IMS</b>	Compact system in wall housing for insulation and loop resistance monitoring for the connection to telecontrol systems via RS232 interface	<b>30 V/ 35..72 V DC</b> <b>073785.000</b> <b>30 V/ 21..36 V DC</b> <b>073785.024</b> <b>90 V/ 35..72 V DC</b> <b>073785.100</b> <b>90 V/ 21..36 V DC</b> <b>073785.124</b> Measuring/Supply voltage.
 <b>Monitoring Station MOD 101-DW</b>	Compact system in wall housing for universal monitoring tasks for the connection to telecontrol systems via RS232 interface Supply voltage <b>38 .. 72 V DC</b>	<b>073487.000</b>


## Unified Monitoring System

Item	Description	Order no.
 <b>Monitoring Station MUX 101-IMS</b>	Compact system in wall housing for insulation and loop resistance monitoring Display + control panel, 10 measuring channels, 13 alarm contacts, with pre-assembled ethernet cable	30 V/ 35..72 V DC <b>073187.000</b>
		30 V/ 21..36 V DC <b>073187.024</b>
		90 V/ 35..72 V DC <b>073187.100</b>
		90 V/ 21..36 V DC <b>073187.124</b>
	Measuring/Supply voltage	
 <b>Monitoring Station MUX 101-DW</b>	Compact system in wall housing for universal monitoring tasks with pre-assembled ethernet cable Supply voltage <b>38 .. 72 V DC</b>	<b>072681.000</b>
 <b>Monitoring Station RTU</b>	Modular system in 19" housing for universal monitoring tasks with 12 slots for measurement cards (not included) Included standard modules: power supply, CPU card, CAN bus, TCP/IP communication interface <b>36 .. 75 V DC</b> (DC/DC power supply unit) <b>100 .. 250 V AC/45 .. 65 Hz</b> (AC/DC power supply unit)	<b>067400.000</b> <b>067400.008</b>

## RTU Equipment for Fiber Optic Monitoring

Item	Description	Order no.
 <b>OTDR Module</b>	1310/1550 nm 35/40 dB switchable 1310/1550 nm 43/41 dB switchable 1310/1550 nm 45/43 dB switchable 1550/1625 nm 43/40 dB switchable 850/1300 nm 26/34 dB switchable      others on request each incl. interface card for RTU and connection cable	<b>070677.012</b>
		<b>070677.015</b>
		<b>070677.014</b>
		<b>070677.016</b>
		<b>070677.017</b>
 <b>Optical Switch Module</b>	For 2 to 200 fiber connections incl. interface card for RTU and connection cable Size: 1 HU (44,3 mm) per 16 channels Order no. <b>XXX</b> = number of switch channels	<b>073XXX.0YY</b>
	Available connectors:	<b>YY = 00</b> <b>YY = 85</b> <b>YY = 87</b> <b>YY = 88</b> <b>YY = 89</b>

## Measuring Cards for Monitoring Stations RTU and DW 1005E

Item	Description	Order no.
 <b>Measuring Card R10</b>	for insulation and loop resistance, 10 channels with cable and terminal strip	Meas. voltage 30 V <b>058493.000</b>
		Meas. voltage 90 V <b>058493.100</b>
<b>Measuring Card QE16</b>	16 channels for 127 addressable sensors (Tx-bus) each	<b>047996.000</b>
<b>Connection Cable VK 16</b>	for available lengths see table bottom	<b>029943.0XX</b>
<b>Measuring Card C32</b>	for 32 dry contacts	<b>029920.000</b>
<b>Connection Cable VK 32</b>	for available lengths see table bottom	<b>029946.0XX</b>
<b>Measuring Card Out12</b>	for external alarming, 12 dry contact outputs incl. connection cable VK12	<b>058518.000</b>
<b>Measuring Card SP4</b> <i>for RTU only</i>	for addressable Sparton and Microsol sensors	<b>070882.000</b>
<b>Measuring Card T36</b> <i>for RTU only</i>	for 20/40 step sensors for pressure and flow	<b>069397.000</b>
	<b>Available Connection Cable Lengths</b>	<b>XX = 00</b> <b>XX = 85</b> <b>XX = 86</b> <b>XX = 87</b>





# Monitoring stations

## Accessories

### For compact Monitoring Stations, Types 101

Item	Description	Order no.
External Power Supply	230 V AC	062025.000
19" 8 HU Adaptor	for mounting in 19" cabinet or rack	061713.000

### For Monitoring Stations RTU and DW 1005E

Item	Description	Order no.
 <b>Wall Mount Cabinet</b>	19"/11 HU for RTU or DW 1005E and connection panel for 15 LSA+ connection strips (excl.)	062526.000
	19"/11 HU including wiring and mounting works for one RTU or DW 1005E and the connection panel for 15 LSA+ connection strips (instruments and wires excluded)	062526.001
<b>Communication Module I-COM</b> for RTU only	adds an internal <b>analogue modem</b> to the RTU	072445.001
	adds an internal <b>ISDN modem</b> to the RTU	072445.002
	adds an internal <b>GPRS/GSM modem</b> to the RTU	072445.003
 <b>LSA+ Connection Strip</b>	for 10 pairs	047939.000
 <b>LSA+ Earth Connection Strip</b>	for reference earth for R10 cards	059034.000
 <b>Connection Panel 19"</b>	for 15 LSA+ connection strips, without connection strips	047937.000



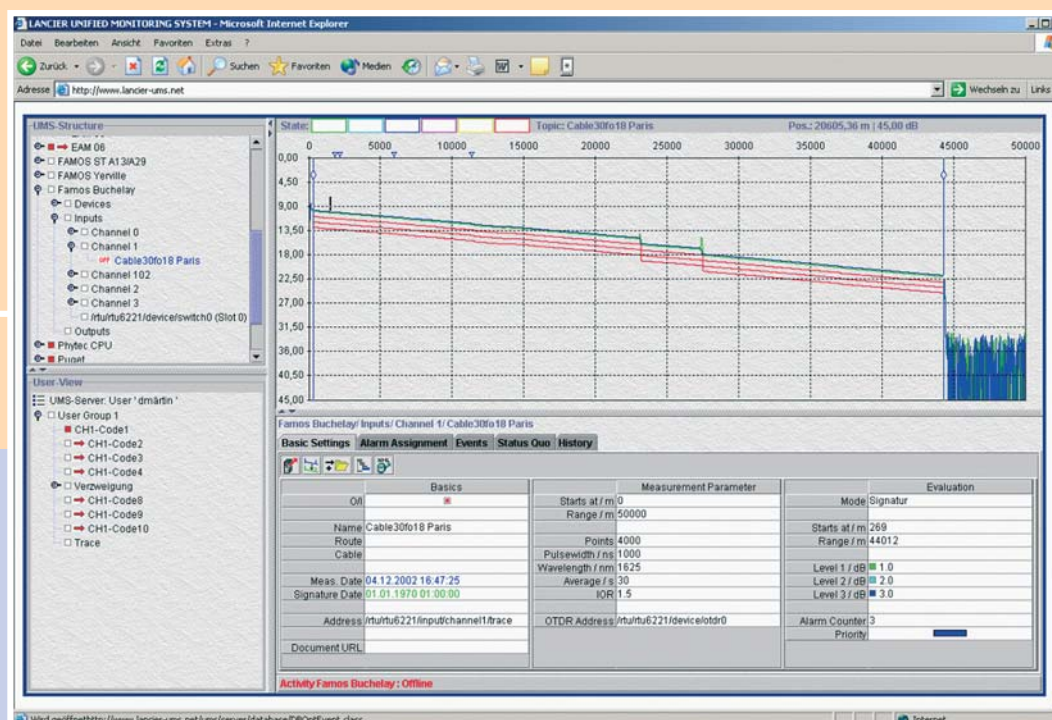
# Monitoring Software

*Unified Monitoring System UMS*  
for UMS Monitoring Stations

Item	Description	Order no.
Database	<b>Oracle Database Standard Edition</b> , full use, 5 named users	<b>072215.000</b>
	<b>Upgrades</b>	
	5 additional Clients for Oracle Database 25 additional Clients for Oracle Database	072215.005 072215.025
UMS Server License	up to 5 Clients	072216.000
	<b>Upgrades</b>	
	up to 5 additional Clients for UMS Server up to 25 additional Clients for UMS Server	072216.005 072216.025
UMS Client License	<b>1 Fiber Optic Cable (OTDR) User</b> (limited to use OTDR, FiberTxA and OpTxA measurement)	<b>072239.200</b>
	<b>1 Standard User</b> (everything except OTDR measurement)	<b>072239.100</b>
	<b>1 Full User</b> (standard plus OTDR)	<b>072239.300</b>

*Software DataView*  
for Monitoring Stations DW and IMS

Item	Description	Order no.
DataView	<b>Software Installation Set DataView</b> for graphic visualization of measurement data PC installation set for 1 User (incl. external analogue modem)	<b>061642.000</b>



Screenshot UMS client: Backscattering trace of optical fiber

# Sensors

## Addressable for LANCIER Tx-Bus

Evaluation is processed via LANCIER Tx-Bus by monitoring stations RTU and DW 1005E equipped with QE16 card as well as in MUX 101-DW and DW 101E.

Item	Description	Order no.
PTxA210PM	<b>Addressable Pressure Sensor</b> for joint installation Measuring range 700..2100 hPa (mBar) abs.	054471.000
PTxA210PE	<b>Addressable Pressure Sensor</b> for external installation in multi housing. Measuring range 700..2100 hPa (mBar) abs.	047000.001
Accessories: <b>Jumper Cable 0.2 m</b> <b>Jumper Cable 0.5 m</b> <b>Connection set</b>	for add on mounting for add on mounting for pressurized sleeves	046983.000 059541.000 048653.000
PTxA 210	<b>Addressable Pressure Sensor</b> with adaptor board for placement in multi housing Measuring range 700..2100 hPa (mBar) abs.	072888.000
HPTxA	<b>Addressable High-Pressure Sensor</b> Measuring ranges 0..10 bar Measuring ranges 0..200 bar	048338.000 072013.000
TTxAM	<b>Addressable Temperature Sensor</b> for joint installation Measuring range -20...+70°C other measuring ranges upon request	043772.000
TTxAS	<b>Addressable Temperature Sensor</b> in snap-on housing Measuring range -20...+70°C other measuring ranges upon request	063601.000
HTxA5/95	<b>Addressable Humidity Sensor</b> Measuring range 5..95% r.h.	043771.000
HTxA0/15	<b>Addressable Humidity Sensor</b> Measuring range 0..15% r.h. for compressor monitoring	063007.000
XTxA	<b>Addressable Universal Sensor</b> in snap on housing Current measuring range: 0.. 10 mA DC Current measuring range: 0.. 100 mA DC Current measuring range: 0.. 1 A DC Voltage measuring range: 0.. 1 V DC Voltage measuring range: 0.. 10 V DC Voltage measuring range: 0.. 100 V DC other measuring ranges upon request	050601.010 050601.011 050601.012 050601.020 050601.021 050601.022
MTxA	<b>Addressable Humidity and Temperature Sensor</b>	072759.000
CTxA 4 S	<b>Addressable Contact Sensor</b> in snap-on housing sleeve mount in multi housing in wall mount housing	050668.000 043775.000 058238.000 073651.000
CDtA 4L	<b>Addressable Contact Sensor</b> latching in snap on housing latching in multi housing	073778.000 073779.000
U5DtA	<b>Addressable Voltage Detector</b> for 1 to 5 voltage inputs	059739.000
LID-TxA-S	<b>Addressable RKA Light Detector</b> for directional short circuit indicators in power cable network	072203.000



### Housing options:




- M: Joint installation, 95 x 30 x 18 mm, IP 20
- S: Snap-on housing, 100 x 22.5 x 75 mm, IP 20
- W: Wall mounting, 98 x 64 x 36 mm, IP 65
- E: Multi housing, 165 mm, Ø 50 mm, IP 68

## Derived Circuit *for addressable Sensing Devices*

Item	Description	Order no.
Repeater Rxlf	Signal repeater 0 dBm	050528.000
	Signal repeater -14 dBm	050528.014
Repeater Txlf	Signal repeater 0 dBm	050527.000
	Signal repeater -14 dBm	050527.014
Mounting Box	for DIN rail modules (e.g. Rxlf, Txlf)	065076.000
DC/DC Converter	one required for each Txlf	052473.000
Power Supply	230 V AC/60 V DC	071662.000

## Sensors Mk2 Series


*Stand-alone Measurement and Monitoring Devices  
for integration into the Monitoring System by CAN- or Tx-Bus*

Item	Description	Order no.
 IsoTxA Mk2	<b>Insulation and Loop Resistance Sensor</b>	071676.000
 FiberTxA Mk2	<b>Optical Attenuation Sensor</b> , 0..50 dB, for dark and active fibers, integrated laser diode and photo diode	071840.0WA
 OpTxA Mk2	<b>Optical Power Sensor</b> , for active fibers, -50..10 dBm, integrated optical coupler, broadband (1000-1600 nm)	071850.0WA
	Wavelengths:	1310 nm multimode (FiberTxA only) 1310 nm singlemode 1625 nm singlemode
	Available connectors:	SC/APC FC/APC E2000 FC/PC, others on request
		W = 7 W = 8 W = 9
		A = 5 A = 6 A = 8 A = 9

## Accessories

Item	Description	Order no.
Tx-Bus Interface	Internal plug-in module for connection to monitoring systems DW 1005E or DW 101E (1 per Mk2-Sensor required)	071700.000
CAN Interface	Internal plug-in module for connection to RTU or ethernet via CAN-ethernet adaptor (1 per Mk2-Sensor required)	072050.000
Modbus Interface	Internal plug-in module for connection to telecontrol systems via RS232 interface (1 per Mk2-Sensor required)	073601.000
CAN-Ethernet Adaptor	External module for connection of several sensors to TMN/Lancier UMS via SNMP	072240.000
Drawer 19" 1HU	Module carrier for max. three Mk2 sensors	071863.000
Wall Housing	for max. three Mk2 sensors with power supply unit 48/60 VDC	072723.000
	with power supply unit 115-230 VAC	072723.008



## Aquasensor *for Detection of Humidity in Splicing Boxes of Fiber Optic Cables*

Item	Description	Order no.
 Aquasensor	reports humidity and water in sleeves of fiber optic cables	068969.000



# Pressurisation Systems

## Installed Systems

### RTS Sound proofed Compressor-Dryer System with Air Distribution Mounting Facility



Item	Description	Order no.
 <b>RTS 2700</b>	Output capacity (sea level)	2700 l/h
	Mounting space for digital flow meters in front door (flow meters not included)	25
	<b>Options/Accessories</b>	
	Maintenance signal 400 hours	<b>072567.000</b>
	Total flow meter	<b>072565.000</b>
Manometer for air dryer	<b>072568.000</b>	
Lockable glass front door	<b>072570.000</b>	
 <b>RTS 5000</b>	Output capacity (sea level)	5000 l/h
	Mounting space for digital flow meters in front door (flow meters not included)	50
	<b>Options/Accessories</b>	
	Maintenance signal 400 hours	<b>072567.000</b>
	Total flow meter	<b>072566.000</b>
Manometer for air dryer	<b>072568.000</b>	
Lockable glass front door	<b>072571.000</b>	

### RTS digital with digital Control and LC Display

Item	Description	Order no.
 <b>RTS 1000</b>	Output capacity (sea level)	1000 l/h
	Mounting space for digital flow meters in front door (flow meters not included)	10
	Wall mount, 230 V, single phases	
	<b>Options/Accessories</b>	
Floor-mounted appliance	<b>072561.000</b>	
Lockable glass front door	<b>072569.000</b>	
Compressor with electric plug	<b>072562.000</b>	
 <b>RTS 2500</b>	Output capacity (sea level)	2500 l/h
	Mounting space for digital flow meters in front door (flow meters not included)	10
	230/400 V, three phases	
<b>Options/Accessories</b>		
Lockable glass front door	<b>072569.000</b>	
	Voltage frequencies:	50 Hz 60 Hz
		<b>X = 0</b> <b>X = 6</b>
<b>Mandatory options, choice of</b>	Display and control units:	Minidisplay <b>or</b> ACS with display and control panel (for options see page 10)
		<b>073392.000</b> <b>072890.010</b>



## Mobile Systems

Item	Description	Order no.
	<b>LAP 1500</b> Output capacity (sea level) 1500 l/h Lightweight suitcase system 16 kg 230 V AC/50 Hz, 0.5 bar 230 V AC/50 Hz, 1.0 bar	056642.000
		056643.000
	<b>Options/Accessories</b> Spare dryer 049699.000 Drying agent 056655.000	
		<b>LAM 2000</b> Output capacity (sea level) 2000 l/h Dismountable into 2 lightweight Modules, approx. 28 + 22 kg



## Material for Pressurised Cables

Item	Description	Order no.
	<b>Material Set for Pressure Test and Feeding Points</b> for cable diameter of 10 to 30 mm for cable diameter of 30 to 38 mm for cable diameter of 38 to 60 mm for cable diameter of 60 to 90 mm	028771.000
		020746.000
		020747.000
		020748.000
	<b>Connectors</b> <b>T-Piece Hose Connector</b> with test valve for hoses with inner diameter of 7 to 8 mm <b>Valve Connector</b> Vg 8 x 7,5, straight for hoses with inner diameter of 7 to 8 mm <b>Valve Connector</b> Vg 8 x 7,5, bent 90° for hoses with inner diameter of 7 to 8 mm	002501.000
		021190.000
		021191.000
	<b>Material Set for Air Blocks</b> for cable diameter of 10 to 30 mm for cable diameter of 30 to 38 mm for cable diameter of 38 to 60 mm for cable diameter of 60 to 90 mm	028767.000
		028768.000
		028769.000
		028770.000
	<b>Self arming Glass Fiber Tape</b> 12 mm wide, roll of 20 m	020480.000
	<b>Material for Air Blocks in Cables with Plastic Sheath</b> <b>Tension Clamp</b> for cable diameter of 38 to 48 mm for cable diameter of 48 to 60 mm for cable diameter of 60 to 75 mm for cable diameter of 75 to 90 mm <b>Packing Tape</b> used with tension clamp for cables with smaller diameters	015463.000
		015464.000 015465.000 015466.000 015467.000
	<b>Resin for Cables</b> <b>Two-Component Resin LDC</b> , mixture volume approx. 275 ml <b>Required Quantity</b> in cables with PE or PVC sheath Cable diameter, mm 10..38 38..48 48..60 60..75 75..90 No. of tubes 1 2 3 4 5 <b>Required Quantity</b> in metal sheath cables Diam. of cable core, mm .20 20..45 45..55 55..60 60..70 70..80 No. of tubes 1 2 4 6 8 9	012590.000
	<b>Spout</b> to connect resin mixture tube to injection point (needed only, when LANCIER material set is not used)	040437.000


# Monitoring of Pressurisation Systems

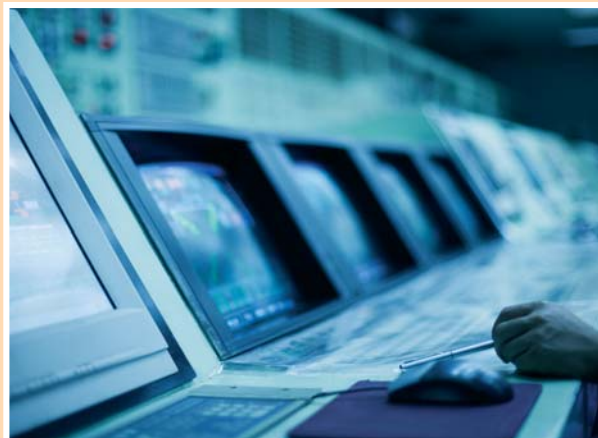
## Addressable Compressor Sensing Unit ACS

for up to ten physical Parameters to assess the Status of Pressurisation Systems

Item	Description	Order no.
 <b>Addressable Compressor Sensing Unit ACS</b>	Standard version providing <ul style="list-style-type: none"> <li>• 1 dry contact alarm input</li> <li>• Power fail alarm</li> <li>• Compressor running time</li> <li>• Total operating hours</li> <li>• Humidity contents of outlet air</li> <li>• Temperature of outlet air</li> <li>• Two interfaces for external temperature monitoring</li> <li>• One interface for pressure sensor 0-10 bar</li> </ul>	072890.000
	ACS with <b>LC display and control panel</b>	072890.010

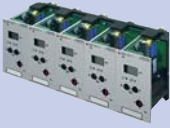


## Options for ACS

Item	Description	Order no.
 <b>Total Flow Meter Extension</b>	for total air flow, 0 .. 5000 l/h	072892.000
<b>Temperature Sensor</b>	for compressor mounting, -30 .. +200 °C	073155.000
<b>Temperature Sensor</b>	for ambient temperature, -20 .. +80 °C	073154.000
<b>Pressure Sensor</b>	for installation in compressor, 0-10 bar	073153.000
<b>Microfilter</b>	for the ACS air input to protect the sensors from dust	073206.000



## Addressable Digital Flow Meters

for Pressurisation Systems

Item	Description	Order no.
 <b>Digital Flow Meter Block</b>	Digital flow meter block for the integration into pressurisation system cabinets	
	equipped with 1 digital flow meter FMA 200C	064950.101
	equipped with 2 digital flow meter FMA 200C	064950.102
	equipped with 3 digital flow meter FMA 200C	064950.103
	equipped with 4 digital flow meter FMA 200C	064950.104
	equipped with 5 digital flow meter FMA 200C	064950.105
 <b>Digital Flow Meter Wall Mount Box</b>	Digital flow meter wall mount box for 1 to 5 digital flow meters FMA 200C	
	equipped with 1 digital flow meter FMA 200C	069467.101
	equipped with 2 digital flow meter FMA 200C	069467.102
	equipped with 3 digital flow meter FMA 200C	069467.103
	equipped with 4 digital flow meter FMA 200C	069467.104
	equipped with 5 digital flow meter FMA 200C	069467.105
 <b>Digital Flow Meter FMA 200C</b>	Extension of existing flow meter block by additional digital flow meter FMA 200C	064952.100






## Installation Material

for Digital Flow Meter Blocks

Item	Description	Order no.
<b>Pneumatic Installation Kit</b>	for one FMA 200C (output connector for new RTS equipment, 19" wall-mount cabinets and expansions)	065898.000
<b>Installation Kit for the first Distribution Block</b>	for replacement of flow indicators and expansions	065897.000
<b>Common Input Air Filter KL 15</b>	for installation into PE 10/7 hose when connecting to cable type PWE2Y (one required for each FMA 200)	071011.000
<b>Non-return Valve</b>	Non-return valve for hose diameter 10/7 mm	057311.000
	Non-return valve for hose diameter 6/4 mm	057311.066
<b>19" Installation Kit</b>	for one distribution block (for installation into 19" wall-mount cabinets and front doors of RTS equipment)	064955.000
<b>Wall Mount Cabinet</b>	Wall mount cabinet for 4 digital flow meter blocks (20 FMA 200C) Other wall mount cabinets on request	069631.000
<b>Micro Air Filter</b>	add-on kit for RTS 2802 (for installation of FMA 200C in RTS 2802)	071012.000
<b>Micro Air Filter</b>	add-on kit for RT 5002 (for installation of FMA 200C in RT 5002)	061687.000
<b>Blindplate 19", 2.5 HU</b>	to cover unused mounting spaces	064498.000

# Testing Equipment

for Pressurised Cable Network  
and Pressurisation Systems

Item	Description	Order no.
 <b>DFOM</b>	<b>Digital Fault-Locating Manometer</b> with valve connector Vg 8 x 7,5 bent with quick connector	<b>039194.003</b> <b>039194.006</b>
 <b>DFP</b>	<b>Digital Humidity and Temperature Analyser</b> with quick connector	<b>072773.000</b>
 <b>Hydrotector H<sub>2</sub></b>	<b>Cable Leak Detector</b> incl. charging set 230 V 50-60 Hz, headphones, plunger, 2 NiCd batteries, special case <b>Accessory</b> <b>Tracing Gas Filling Kit</b> for Hydrotector with single stage reducer and 5 m hose	<b>057049.100</b> <b>057388.000</b>
 <b>Ultrasonic Leak Detector</b>	Handheld device, incl. headphones, sonic funnel, probe extension, battery and top-quality case	<b>002525.100</b>
 <b>Testbox T2</b>	Testing equipment for addressable sensors/LANCIER Tx-Bus incl. earphone, measurement cables and battery charger	<b>050833.100</b>



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