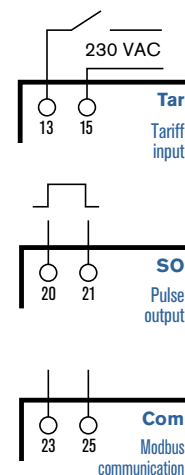
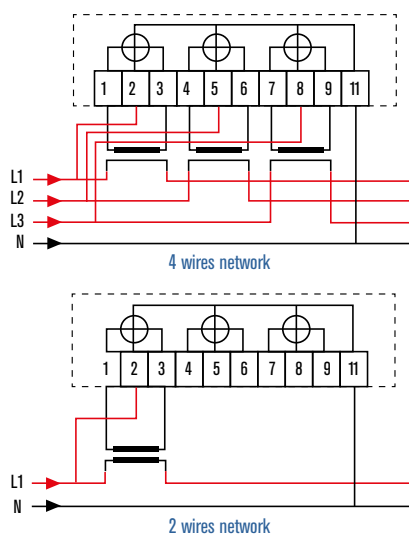


MDVH 5181 | MDVH 5281

ENERGY METER WITH CONNECTION BY CT /5A

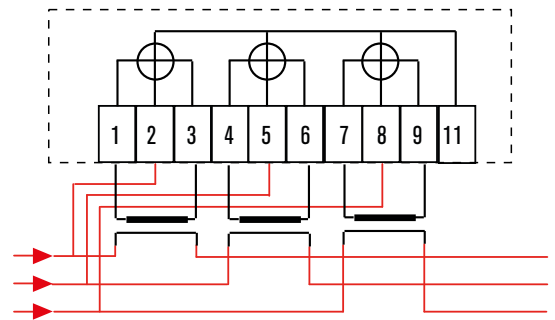


WIRING DIAGRAMS

TECHNICAL CHARACTERISTICS	MDVH 5181-TA (5A)	MDVH 5281-CT (5A)
VOLTAGE INPUTS		
Nominal voltage U_s	3 x 230 / 400 V (-20 % / +15%)	3 x 230 / 400 V (-20 % / +15%)
Operating voltage range	50 Hz / 60 Hz	50 Hz / 60 Hz
Power consumption	< 5VA / <2 W	< 5VA / <2 W
CURRENT INPUTS		
Connection type	Connection by CT /5A	Connection by CT /5A
Reference current	5 A	5 A
Max current	6 A	6 A
Start current	5 mA	5 mA
ACCURACY		
Active energy (EN62053-21)	Class C (MID) 0,5%	Class C (MID) 0,5%
METROLOGIC LED		
Pulse number	5000 pulses/kWh	5000 pulses/kWh
Pulse duration	30ms	30ms
TARIFF INPUT		
Nominal Voltage	0 ... 230Vac	0 ... 230Vac
Max Voltage	265 Vac	265 Vac
STATIC OUTPUTS		
Output number	1	1
Pulse lenght	Programmable 30 ÷ 500 ms	Programmable 30 ÷ 500 ms
Max Voltage	15 Vdc	15 Vdc
Max Current	15 mA	15 mA
RS485 SERIAL INTERFACE		
Protocol	-	Modbus RTU Modbus ASCII
Baud-rate	-	Programmable 300÷19200 bps
HOUSING		
Version	6 modules (DIN 43880)	6 modules (DIN 43880)
Mechanical dimensions (mm)	105.4 x 96.2 x 65.86	105.4 x 96.2 x 65.86
Weight	460 g	460 g
Degree of protection	IP 51	IP 51
AMBIENT OPERATING CONDITIONS		
Mounting	Indoor use only	Indoor use only
Operating temperature	-25°C ... +55°C	-25°C ... +55°C
Storage temperature	-25°C ... +70°C	-25°C ... +70°C
Mechanical enviroment	Class M2	Class M2
Electromagnetic enviroment	Class E2	Class E2
Relative humidity	75%	75%
CERTIFICATIONS AND COMPLIANCE		
Reference standards	EN 62053-31, EN 50470-1, EN 50470-3	EN 62053-31, EN 50470-1, EN 50470-3

MDDH 5181-M | MDDH 5191-M

ENERGY METER WITH CONNECTION BY CT /5A OR CT /1A - 3 WIRE



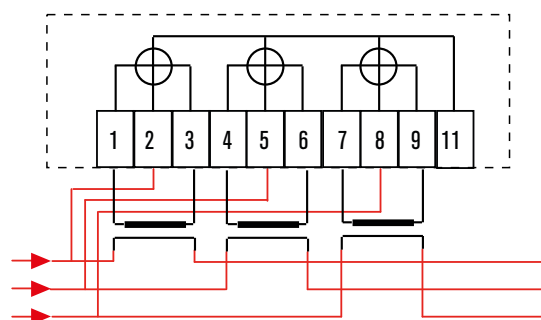
3 wires network (without neutral)

WIRING DIAGRAMS

TECHNICAL CHARACTERISTICS	MDDH 5181-M	MDDH 5191-M
VOLTAGE INPUTS		
Nominal voltage Us	3 x 400 V or 3 x 230 V	3 x 400 V or 3 x 230 V
Operating voltage range	50/60 Hz	50/60 Hz
Power consumption	-	-
CURRENT INPUTS		
Connection type	Connection by CT /5A	Connection by CT /5A or CT /1A
Reference current	10 A	10 A
Max current	5 A	1A e 5A
Start current	40 mA	40 mA
ACCURACY		
Active energy (EN62053-21)	Class C (MID) 0,5%	Class C (MID) 0,5%
METROLOGIC LED		
Pulse number	1000 pulses/kWh	5000 pulses/kWh
Pulse duration	30ms	30ms
TARIFF INPUT		
Nominal Voltage	0 ... 230Vac	0 ... 230Vac
Max Voltage	265 Vac	265 Vac
STATIC OUTPUTS		
Output number	1	1
Pulse lenght	Programmable 30 ÷ 500 ms	Programmable 30 ÷ 500 ms
Max Voltage	15 Vdc	15 Vdc
Max Current	15 mA	15 mA
RS485 SERIAL INTERFACE		
Protocol	-	-
Baud-rate	-	-
HOUSING		
Version	6 modules (DIN 43880)	6 modules (DIN 43880)
Mechanical dimensions (mm)	105.4 x 96.2 x 65.86	105.4 x 96.2 x 65.86
Weight	520 g	460 g
Degree of protection	IP 51	IP 51
AMBIENT OPERATING CONDITIONS		
Mounting	Indoor use only	Indoor use only
Operating temperature	-25°C ... +55°C	-25°C ... +55°C
Storage temperature	-25°C ... +70°C	-25°C ... +70°C
Mechanical enviroment	Class M2	Class M2
Electromagnetic enviroment	Class E2	Class E2
Relative humidity	75%	75%
CERTIFICATIONS AND COMPLIANCE		
Reference standards	EN 50470-1, EN 50470-3	EN 50470-1, EN 50470-3

MDDH 5281-M | MDDH 5291-M

ENERGY METER WITH CONNECTION BY CT /5A OR CT /1A - 3 WIRE - RS485 SERIAL INTERFACE



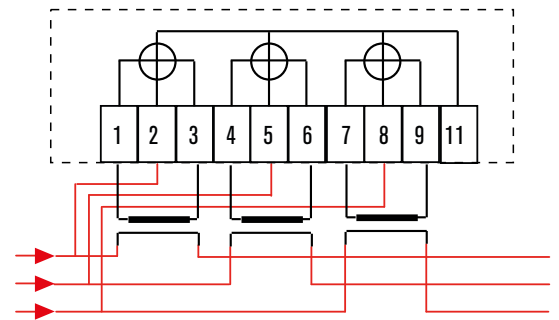
3 wires network (without neutral)

WIRING DIAGRAMS

TECHNICAL CHARACTERISTICS	MDDH 5281-M	MDDH 5291-M
VOLTAGE INPUTS		
Nominal voltage U_s	3 x 400 V or 3 x 230 V	3 x 400 V or 3 x 230 V
Operating voltage range	50/60 Hz	50/60 Hz
Power consumption	-	-
CURRENT INPUTS		
Connection type	Connection by CT /5A	Connection by CT /5A or CT /1A
Reference current	10 A	10 A
Max current	5 A	1A e 5A
Start current	40 mA	40 mA
ACCURACY		
Active energy (EN62053-21)	Class C (MID) 0,5%	Class C (MID) 0,5%
METROLOGIC LED		
Pulse number	1000 pulses/kWh	5000 pulses/kWh
Pulse duration	30ms	30ms
TARIFF INPUT		
Nominal Voltage	0 ... 230Vac	0 ... 230Vac
Max Voltage	265 Vac	265 Vac
STATIC OUTPUTS		
Output number	1	1
Pulse lenght	Programmable 30 ÷ 500 ms	Programmable 30 ÷ 500 ms
Max Voltage	15 Vdc	15 Vdc
Max Current	15 mA	15 mA
RS485 SERIAL INTERFACE		
Protocol	Modbus RTU Modbus ASCII	Modbus RTU Modbus ASCII
Baud-rate	Programmable 300÷19200 bps	Programmable 300÷19200 bps
HOUSING		
Version	6 modules (DIN 43880)	6 modules (DIN 43880)
Mechanical dimensions (mm)	105.4 x 96.2 x 65.86	105.4 x 96.2 x 65.86
Weight	520 g	460 g
Degree of protection	IP 51	IP 51
AMBIENT OPERATING CONDITIONS		
Mounting	Indoor use only	Indoor use only
Operating temperature	-25°C ... +55°C	-25°C ... +55°C
Storage temperature	-25°C ... +70°C	-25°C ... +70°C
Mechanical enviroment	Class M2	Class M2
Electromagnetic enviroment	Class E2	Class E2
Relative humidity	75%	75%
CERTIFICATIONS AND COMPLIANCE		
Reference standards	EN 50470-1, EN 50470-3	EN 50470-1, EN 50470-3

MDDH 5381-M | MDDH 5391-M

ENERGY METER WITH CONNECTION BY CT /5A OR CT /1A - 3 WIRE - RS485 SERIAL INTERFACE - LOAD PROFILES



3 wires network (without neutral)

WIRING DIAGRAMS

TECHNICAL CHARACTERISTICS	MDDH 5381-M	MDDH 5391-M
VOLTAGE INPUTS		
Nominal voltage Us	3 x 400 V or 3 x 230 V	3 x 400 V or 3 x 230 V
Operating voltage range	50/60 Hz	50/60 Hz
Power consumption	-	-
CURRENT INPUTS		
Connection type	Connection by CT /5A	Connection by CT /5A or CT /1A
Reference current	10 A	10 A
Max current	5 A	1A e 5A
Start current	40 mA	40 mA
ACCURACY		
Active energy (EN62053-21)	Class C (MID) 0,5%	Class C (MID) 0,5%
METROLOGIC LED		
Pulse number	1000 pulses/kWh	5000 pulses/kWh
Pulse duration	30ms	30ms
TARIFF INPUT		
Nominal Voltage	0 ... 230Vac	0 ... 230Vac
Max Voltage	265 Vac	265 Vac
STATIC OUTPUTS		
Output number	1	1
Pulse lenght	Programmable 30 ÷ 500 ms	Programmable 30 ÷ 500 ms
Max Voltage	15 Vdc	15 Vdc
Max Current	15 mA	15 mA
RS485 SERIAL INTERFACE		
Protocol	Modbus RTU Modbus ASCII	Modbus RTU Modbus ASCII
Baud-rate	Programmable 300÷19200 bps	Programmable 300÷19200 bps
HOUSING		
Version	6 modules (DIN 43880)	6 modules (DIN 43880)
Mechanical dimensions (mm)	105.4 x 96.2 x 65.86	105.4 x 96.2 x 65.86
Weight	520 g	460 g
Degree of protection	IP 51	IP 51
AMBIENT OPERATING CONDITIONS		
Mounting	Indoor use only	Indoor use only
Operating temperature	-25°C ... +55°C	-25°C ... +55°C
Storage temperature	-25°C ... +70°C	-25°C ... +70°C
Mechanical enviroment	Class M2	Class M2
Electromagnetic enviroment	Class E2	Class E2
Relative humidity	75%	75%
CERTIFICATIONS AND COMPLIANCE		
Reference standards	EN 50470-1, EN 50470-3	EN 50470-1, EN 50470-3