

mark

building climate technology

Technical manual EN

Mark Hybrid Controller

0664017



Read through this document before you begin installation and commissioning

EN

Warning!

Incorrect installation, adjustment, alteration, repair or maintenance work may lead to material damage or injury. All work must be carried out by certified, qualified professionals. If the appliance is not positioned in accordance with the instructions, the warranty shall be rendered void. This appliance is not intended for use by children or persons with a physical, sensory or mental handicap, or who lack the required experience or expertise, unless they are supervised or have been instructed in the use of the appliance by somebody who is responsible for their safety. Children must be supervised to ensure that they do not play with the appliance.

1.0 General

1.1 Subject to modification

The manufacturer is continuously striving to improve its products and reserves the right to make changes in the specifications without prior notice. The technical details are assumed to be correct, but do not form the basis for a contract or guarantee. All orders are accepted on the standard terms of our general conditions of sale and delivery (available on request). The information in this document is subject to change without notice. The most recent version of this manual is always available at www.markclimate.com/downloads.

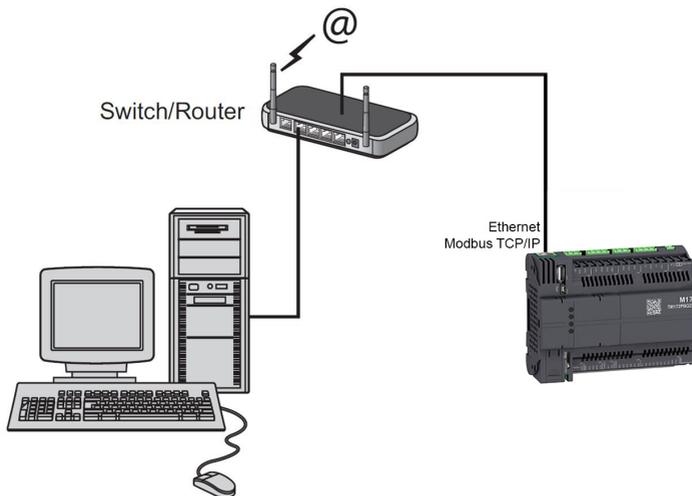
1.2 General warnings

Installation must meet the current local and/or national regulations. The Hybrid Controller must therefore be installed by a competent and qualified fitter, in compliance with the national and international legislation. In the event of faulty installation, calibration, modification, maintenance or repair, the guarantee shall cease to apply.

2.0 Operation with a computer

The unit can be operated using a PC or laptop.

Connect your PC or laptop by means of an Ethernet jack on the controller.



Once you have connected both, start your internet browser* and enter the IP address (Default address: 192.168.1.101).

When you have a connection a log in screen will appear. Enter the username and password.

User name: hybrid
Password: 1000

When the log in details have been correctly entered a tab with status will appear in your browser.

* The factory advises Google Chrome or Mozilla Firefox.

3.0 Working principle

The Mark Hybrid controller is an add on to the Mark PinTherm Mistral. The purpose of this controller is to control a Mark MDX heat pump in combination with another heating unit. The other heating unit can be a gas-fired GS+, GSX, GSD or a full electric TANNER MDE.

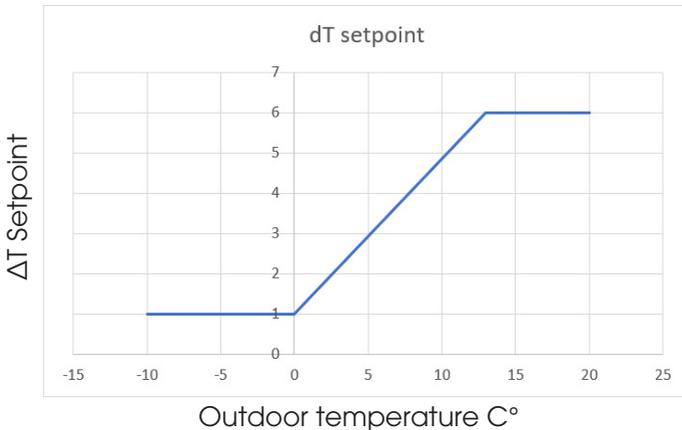
Control:

- MDX heat pump controlled by 0-10V and contacts of the PinTherm Mistral
- GS+ in combination with Interface+ by 0-10V of the Hybrid controller
- GSX and GSD in combination with Interface (+) by contacts of the Hybrid controller
- MDE by contacts of the Hybrid controller

Temperature control:

Room temperature below 7°C, only the other heaters will function, the heat pump is blocked. The hybrid controller creates a separate setpoint for the other heating units. This setpoint is below the setpoint of the "day" setpoint of the PinTherm Mistral. The level difference between both setpoints depends of the outdoor temperature.

Graphic:



Example:

Day Setpoint Pintherm Mistral	18 °C
Outdoor temperature	5 °C
Setpoint other heating units	18 - 2.9 = 15.1 °C

An external controller (e.g. smart grid controller) which detects a low electricity price level can be connected to the hybrid controller. In case of low price level of electricity, the contact closes, the capacity of the GS+ units are reduced. The heat pump will run for a longer period.

In case the heat pump has an alarm, the other heating units will in operation until the setpoint of the PinTherm Mistral is achieved

Default settings:

Minimum room temperature release control Heat pump

7 °C

Switching difference

0.5 K

Capacity level other heating

80 %

Capacity level other heating cheap electricity

50 %

Switching difference

0.5 K

mark STATUS INSTELLINGEN ETHERNET MODBUS

Status

Pintherm Mistral	<input checked="" type="checkbox"/>
Buitemperatuursensor	<input checked="" type="checkbox"/>

Temperatuur

Buitemtemperatuur	5.2 °C
Ruimtemperatuur	10.5 °C

ECO

Goedkope stroom	<input checked="" type="checkbox"/>
ECO stand	<input type="checkbox"/>

Warmtepomp

Vrijgave	<input checked="" type="checkbox"/>
Warmtevraag	<input checked="" type="checkbox"/>
Setpoint dag temperatuur	18 °C
storing	<input type="checkbox"/>

Overige verwarming

Warmtevraag	<input checked="" type="checkbox"/>
Setpoint	15.0 °C
Storing	<input type="checkbox"/>

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mark STATUS **INSTELLINGEN** ETHERNET MODBUS

Warmtepomp

Minimale ruimtemtemperatuur voor vrijgave	<input type="text" value="7.0"/> °C
Schakeldifferentie	<input type="text" value="0.5"/> K

Overige verwarming

Maximale capaciteit	<input type="text" value="80"/> %
Maximale capaciteit goedkope stroom stand	<input type="text" value="50"/> %
Schakeldifferentie	<input type="text" value="0.5"/> K

Stooklijn

Minimale buitemtemperatuur	<input type="text" value="0.0"/> °C
Minimale delta T	<input type="text" value="1.0"/> K
Maximale buitemtemperatuur	<input type="text" value="13.0"/> °C
Maximale delta T	<input type="text" value="6.0"/> K

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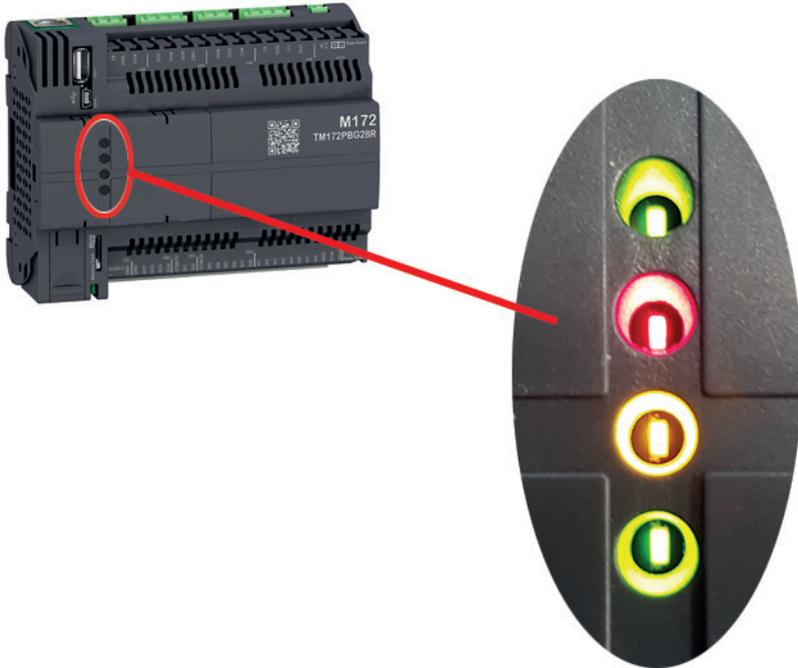
Ethernet settings

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Default Gateway	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="1"/>	<input type="text" value="1"/>		
NetMask	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="0"/>		
Primary DNS	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="8"/>		
Secondary DNS	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="4"/>	<input type="text" value="4"/>		
MAC address	<input type="text" value="0"/>	<input type="text" value="24"/>	<input type="text" value="167"/>	<input type="text" value="5"/>	<input type="text" value="172"/>	<input type="text" value="211"/>

Change Ethernet settings

IP address	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="1"/>	<input type="text" value="101"/>
Default Gateway	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="1"/>	<input type="text" value="1"/>
NetMask	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="0"/>
Primary DNS	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="8"/>
Secondary DNS	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="4"/>	<input type="text" value="4"/>
<input type="button" value="Save Settings"/>				

4.0 LED lights



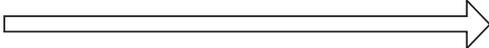
	ON	OFF	Blinking
Upper green LED	Voltage present	Voltage not present	---
Red LED	Other heating malfunction	No Fault	No External temperature sensor
Orange LED	other heating on	Other heating off	---
Lower green LED	Program stop	no program available	Program running

5.0 Electrical diagrams

EN	Select the right drawing!
DE	Der richtigen schaltplan Wählen!
FR	Choisir schema électrique!
NL	Kies het juiste elektrische schema!
PL	Wybierz schemat
RO	Selectati schema corecta!

Drawing	Page
Schaltplan	Seite
Schematique	Page
Schema	Pagina
Schemat	Strona
Schema	Pagina

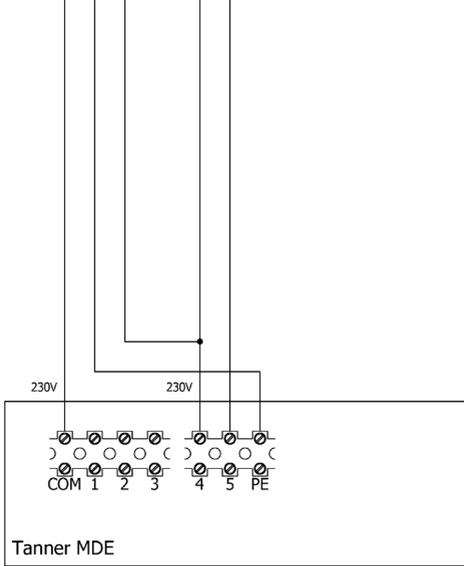
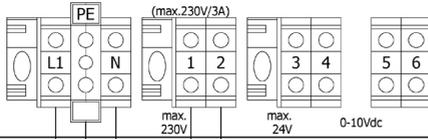
EN

		(1)	10	
		TANNER MDE	(2)	11
		>1 Interface+module - GS+/ GSX	(3)	12
		1x Interface+module - GS+/ GSX	(4)	
		G(N)SE/G(N)CE	(5)	13
		Interface G(N)SD/G(N)CD	(6)	
		GS/GC	(7)	14
		D-type	(8)	

(2)

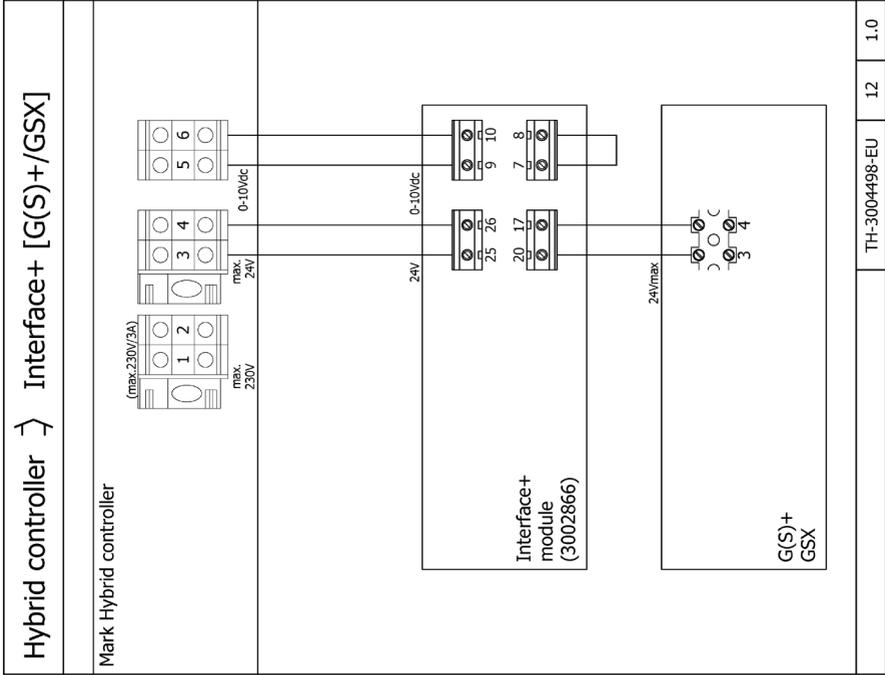
Hybrid controller → Tanner MDE

Mark Hybrid controller

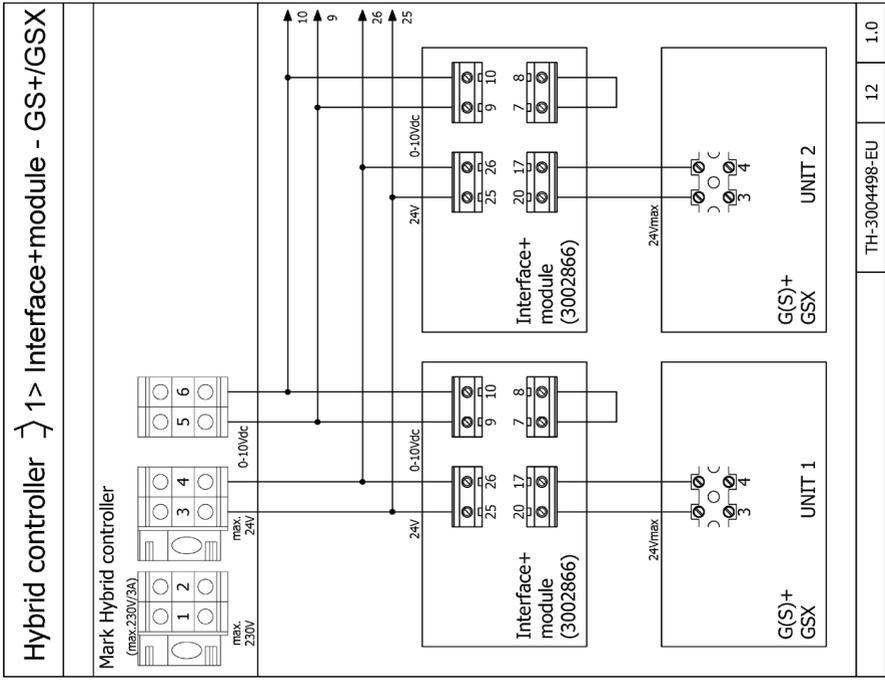


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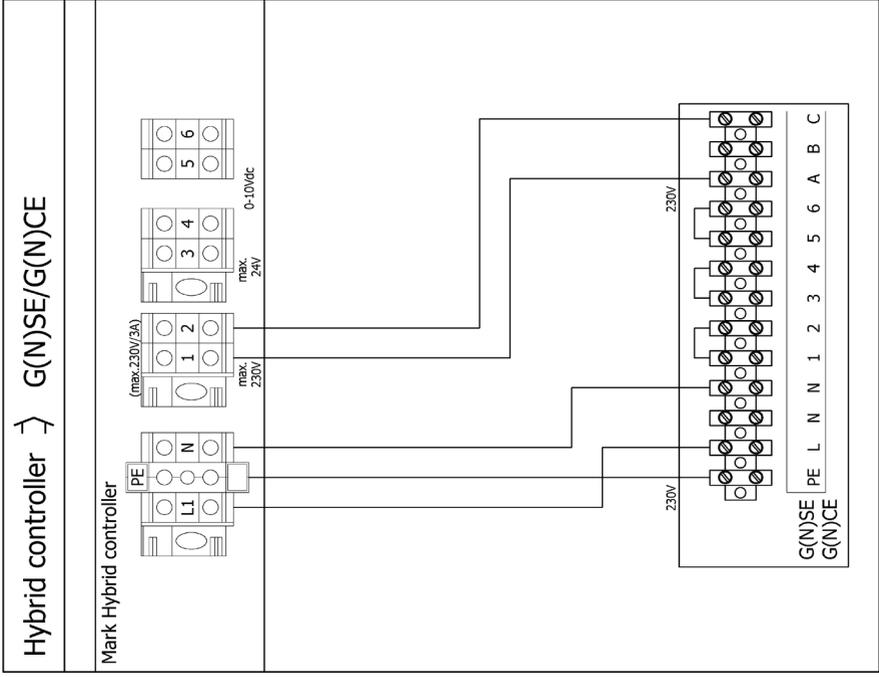
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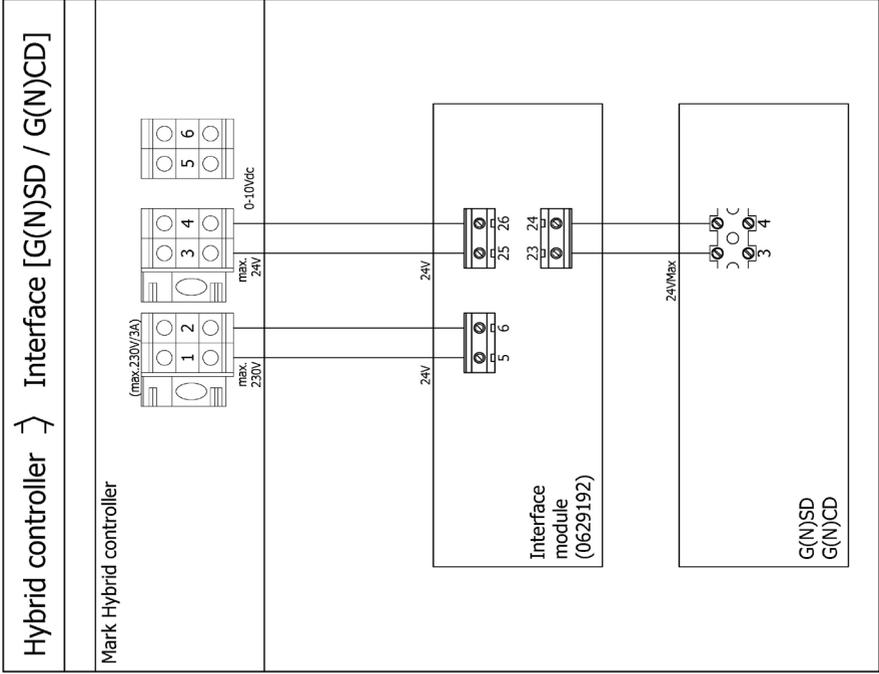
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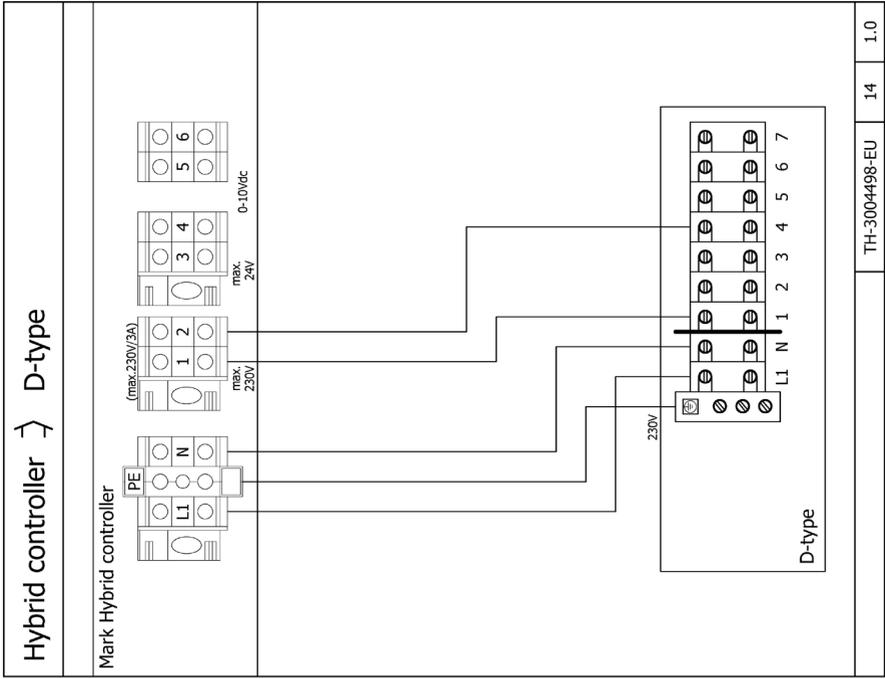
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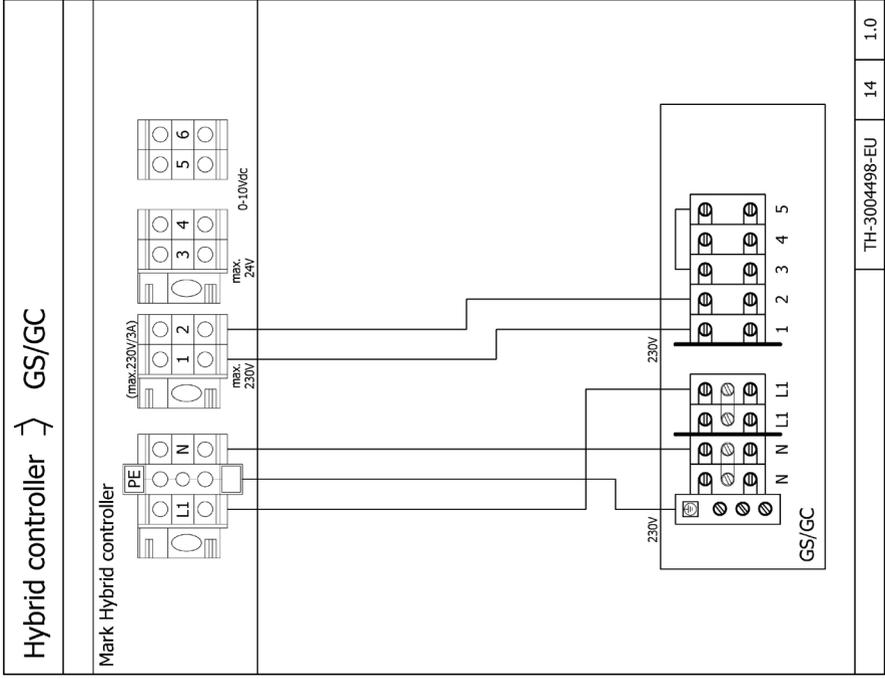
(6)



(8)



(7)



MARK BV

BENEDEN VERLAAT 87-89
VEENDAM (NEDERLAND)
POSTBUS 13, 9640 AA VEENDAM
TELEFOON +31(0)598 656600
FAX +31 (0)598 624584
info@mark.nl
www.mark.nl

MARK EIRE BV

COOLEA, MACROOM
CO. CORK
P12 W660 (IRELAND)
PHONE +353 (0)26 45334
FAX +353 (0)26 45383
sales@markeire.com
www.markeire.com

MARK BELGIUM b.v.b.a.

KERNENERGIESTRAAT 47 UNIT G
2610 WILRIJK (ANTWERPEN)
(BELGIË/BELGIQUE)
TELEFOON +32 (0)3 6669254
info@markbelgium.be
www.markbelgium.be

MARK DEUTSCHLAND GmbH

MAX-PLANCK-STRASSE 16
46446 EMMERICH AM RHEIN
(DEUTSCHLAND)
TELEFON +49 (0)2822 97728-0
TELEFAX +49 (0)2822 97728-10
info@mark.de
www.mark.de

MARK POLSKA Sp. z o.o

UL. JASNOGÓRSKA 27
42-202 CZĘSTOCHOWA (POLSKA)
PHONE +48 34 3683443
FAX +48 34 3683553
info@markpolska.pl
www.markpolska.pl

MARK SRL ROMANIA

STR. BANEASA NO 8 (VIA STR. LIBERTATII)
540199 TÂRGU-MURES, JUD MURES
(ROMANIA)
TEL/FAX +40 (0)265-266.332
office@markromania.ro
www.markromania.ro

