



FORTES DATA MANAGEMENT PLATFORM

COMMUNICATION & MANAGEMENT

Brochure

Fortes Energy Systems is the expert in transferring energy in district energy heating and cooling networks. For more than 20 years, our products have contributed to a sustainable living and working environment in homes, apartments and utility buildings. Fortes Energy Systems is a producer, supplier and sparring partner.

We are specialized in developing and producing Heat Interface Units for residential construction and utilities. With our knowledge, experience and enthusiasm, we are constantly finding ways to transfer energy smarter and more efficiently for a comfortable indoor environment climate, high hot water comfort, optimum system efficiency and low energy consumption.

connecting generates energy



REASONS WHY YOU SHOULD WORK WITH FORTES ENERGY SYSTEMS



FOCUS

Our specialism focuses on the smart and efficient transfer of energy in district energy heating networks.



ENTHUSIASTIC EXPERTS

Our enthusiastic specialists are continuously busy developing our products, this way we stay ahead with innovations.



BEST SOLUTION

You are assured of the latest technology, top quality and the most efficient solution.



PERSONAL

We believe in long-term relationships with our customers, suppliers and employees. This continuity ensures knowledge, reliability and job satisfaction.

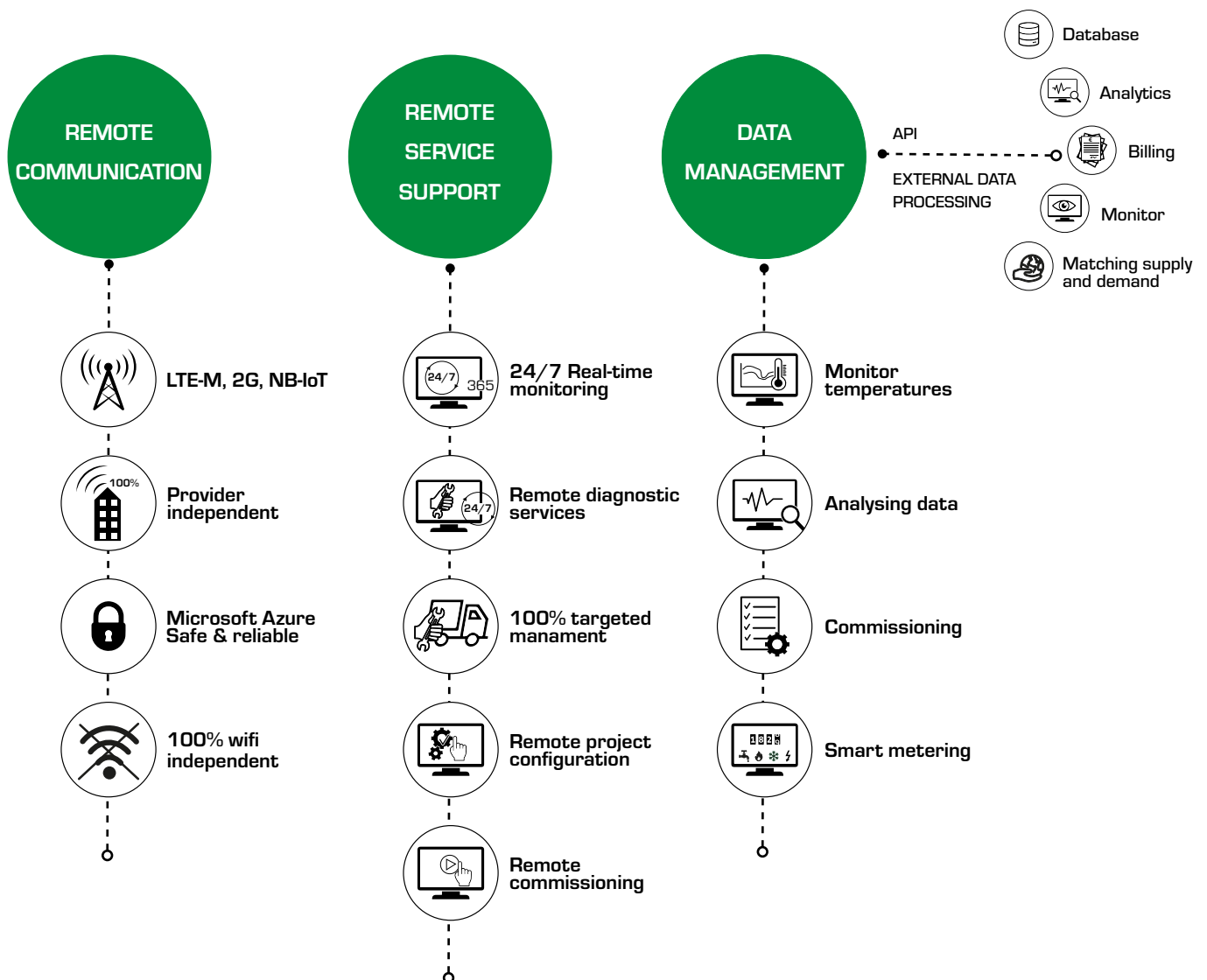


MADE IN NL

Fortes Energy Systems develops and produces in the Netherlands. This makes us flexible and able to respond directly to market demands.

THE PLATFORM FOR A SMARTER DISTRICT ENERGY HEATING NETWORK

REMOTE MONITORING, ANALYZING AND SET SYSTEM PARAMETERS





Advantages

- > Remote monitor, analyze and adjust settings
- > 24/7 provider independent communication
- > Automated diagnoses
- > Excellent security
- > Immediately solve malfunctions & provide service
- > Save on service costs
- > High customer satisfaction
- > Software updates

Fortes Data Management

The platform for a smarter district energy network for energy efficiency, optimization, cost savings and high customer satisfaction.

The administrator can remotely communicate, manage and analyze with the Heat Interface Units 24/7. The Mercurius Communication Module can be linked to the controller of the AquaHeat HIU via a Modbus connection and to the Energy meter (Heat and/or Cold) and a tap water meter via the M-bus protocol.

The data becomes provider independent 24/7 via a secure APN/VPN connection communicated to the Fortes Data Management platform. With the Fortes Data Management platform it is possible to monitor and manage the HIU-units. This provides many options, such as remote diagnosis, immediate service and 100% targeted control of the service technician. With the available data, return temperatures can be monitored and diagnoses be made to optimize the network.

> REMOTE COMMUNICATION



Roaming principle

Provider independent communication with 100% coverage. In the context of operational reliability, Fortes has opted for a 'Roaming' solution. This means our platform communicates 'provider-independent' throughout Europe. The Mercurius Communication Module always chooses the strongest available signal. If a provider is temporarily unable to establish a connection, it will immediately switch to the strongest alternative. In the Netherlands this can be KPN, Vodafone or T-Mobile. This means the Fortes Data Management platform is always assured of an optimum data quality.



Safe and reliable

The Fortes Data Systems platform uses Microsoft Azure. This ensures your business assets and data are highly secured against DDos threats. You can rely on a cloud platform with security measures integrated into all hardware and firmware components.



100% wifi independent

Each Mercurius Communication Module has its own modem with SIM card. With this solution the Mercurius Communication Module does not have to make use of the resident's WiFi connection.

> REMOTE SERVICE SUPPORT



24/7 realtime monitoring

Environmental conditions can be monitored and managed 24/7 via Fortes Data Systems platform. If a malfunction occurs in one of the delivery sets, a malfunction e-mail immediately will be sent with all relevant information to be able to offer customers direct support. Outside office hours, immediate remote assistance can be provided by the service team.



Remote diagnostic services

Automated checking procedure
A revolutionary development within the Fortes Data Systems platform is the 'Diagnostic Service'. With the Diagnostic service, your service organization benefits optimally from Fortes's many years of experience and expertise. If a malfunction occurs, you can start an automated check procedure in the Fortes Data Systems platform. After a check procedure, you will receive an overview of the possible causes of the malfunction. This saves on expertise in the service organization. After the malfunction has been identified, 1st assistance can be provided to the customer remotely. Shut-off valves can (temporarily) be opened remotely, so that heat can still be distributed to the home. For optimal information provision, Fortes Energy Systems recommends connecting a heat meter.

Automatic differential pressure calculation

With the powerful combination of AquaHeat HIU and the Fortes Data Management platform, you can easily perform a differential pressure calculation at any point in your collective network through a user-friendly module. This gives you a clear indication of possible disturbances.



100% targeted management

Service Engineers can be optimally controlled because the diagnosis can be made remotely for every fault message. As a result, the Service Engineer knows which parts are required and only one service visit is required to solve the malfunction. This way service visits are minimized, resulting in enormous savings on service costs.



Remote project configurations

If a heat network or collective installation is optimized, it is possible to choose remotely adjust system parameters at any time in the Heat Interface Unit. This way, an optimal return can easily be obtained from your collective installation. You will save costs on the collective heat network and on service visits.



Remote commissioning

Project configurations can be easily configured remotely. Fortes Energy Systems ensures your assets are grouped by order before delivery. Due to this project-based preparation, the commissioning is largely unburdened. Fortes ensures your focus remains on the project!

> DATA MANAGEMENT



Monitor temperatures

It is possible to monitor average temperatures across all your assets, both individually and collectively. This provides good insights into where improvements can be made in the collective network.



Analysing data

If incidents occur on a specific interface station, you can consult the history to make a diagnosis.



Commissioning

You can easily commission all projects remotely. Real-time data is always available on request, both the measured values and system parameters. It's not necessary to physically be present on a project, with the Fortes Data Systems Platform we make all assets visible and adjustable remotely.



Smart metering

An indispensable part of the AquaHeat Heat Interface Unit is the energy meter. The Fortes Data Systems Platform distinguishes itself by being able to process the data independently from the manufacturer. Depending on the manufacturer's choice, we make the data transparent. The data can also be offered to an external platform for, by example, your invoicing. We support 5 meters per Mercury Communication Module, this can be a heat, cold, water and/or electricity meter. The data can of course also be processed externally and fully integrated into a third-party billing system.

M-Bus

> TECHNICAL DATA

Hardware (Mercurius Communication Module)	
Connectivity	<ul style="list-style-type: none"> > LTE-M (preference) > NB-IoT > 2G
Supported protocols	<ul style="list-style-type: none"> > Modbus > M-Bus
Interfaces	<ul style="list-style-type: none"> > Push button > 3 LED indications for connectivity, modbus and M-Bus > Unique QR code for system identification
Power	<ul style="list-style-type: none"> > No additional Wall Socket required > 5V powered system > Transformer (included) > Split power cable for power supply delivery set and Mercurius
Firmware updates	Remotely (OTA)
Dimensions (excl. connectors)	110 x 66 x 28 (lxbxh)

M2M SIM CARD	
SIM card size	1FF
Durability	25 years at 25 °C
Processor	SC000 32bit
Memory	480Kb
Erase en write cycles	100.000
Erase en write cycles (64Kb)	10.000.000
CPU speed	Tot 28Mhz
Asynchroon according to ISO 7816-3	

Communication	LTE-M (preferred network)	NB-IoT (relapse possibility)
Peak downlink speed	1 Mb/s	26 kb/s
Peak uplink speed	1 Mb/s	66 kb/s
Bandwidth	180 kHz	1.4 MHz
Power classes	20 / 23 dBm	20 / 23 dBm
Latency	10 - 15 ms	1.6 - 10 s

'GREEN' MOTIVATION

We take responsibility for making a positive contribution to the environment. Together with our suppliers, our products are produced with the lowest possible environmental impact.





T +4571991700
E info@fortes-es.
W www.fortes-es.dk