WILO
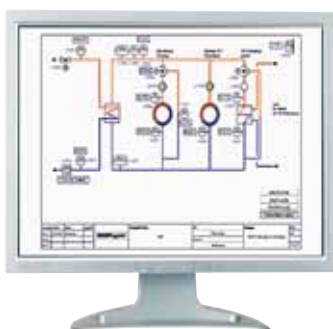*Pumpen Intelligenz.*

Intelligent solutions.
for building automation.

Now with **Modbus & BACnet**

Pumpen Intelligenz.

Wilo is synonymous throughout the world with the tradition of first-class German engineering. Our pumps and pump systems for heating, cooling, air-conditioning, water supply and sewage disposal are used in commercial buildings, municipal buildings, industry and of course also in private households. Our technological leadership is reflected most of all by our system knowledge. Wilo develops all of its products, including the entire electronic circuitry and sensor technology. Because of this we are able to react flexibly to market requirements and are able to guarantee 100% compatibility with all system environments within the building automation system. Trendsetting? We call this Pumpen Intelligenz.

Wilo electronic pumps.

Globally the only pumps with an integrated modular bus connection concept.

- Unique integrated modular bus connection concept
- Available for all conventional bus systems: e.g. Modbus, BACnet, CAN, LON and PLR
- Retrofittable IF-modules enable direct data communication with controllers, actuators and sensors from other manufacturers
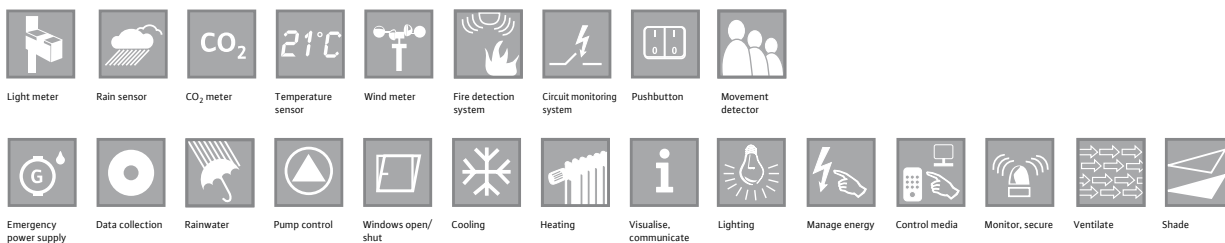

- Really simple installation and removal using plug connections
- So when upgrading the building automation system the entire pump need not be replaced, it is only necessary to install the corresponding IF-module

It doesn't matter which building automation system is used. There's nothing as short-lived and confusing as information technology. Today's state-of-the-art may already be replaced tomorrow by a new standard. There is also a multitude of different closed system environments. So even in building automation diverse bus systems are used. So not every type of actuator or sensor can be integrated in every bus system. So, which product technology should you choose?

You're spot on with Wilo.
The question need not be asked as far as modern pump technology is concerned. Of the pumps that are on the market, Wilo's electronic pumps offer a unique modulated bus connection concept and are at home in every system environment. Wilo offers IF-plug-in modules for all conventional bus systems: e.g. the digital interfaces Modbus, BACnet and CAN, as well as LON and PLR. Due to this modular concept Wilo's electronically controlled pumps can be used with diverse bus protocols.

Flexible due to a modular concept.
Direct data communication with controllers, actuators and sensors from different manufacturers that are equipped accordingly, is possible by using retrofittable IF-modules. These high-tech pumps are also best equipped for future bus systems. As Wilo develops all of its pump electronic circuitry including all of the IF-modules it guarantees that current standards are readily available. A further great advantage: when upgrading the building automation system the entire pump need not be replaced, it is only necessary to install the IF-module. This can be done with little effort.

Using synergies: The indoor air sensor has detected too high a level of CO_2. The windows then open automatically in order to let fresh air in. Simultaneously the circulating pump is switched off via a bus command so that it is energy efficient and no heat is wasted. As soon as the indoor air sensor determines an optimal percentage of oxygen and CO_2 the windows are closed automatically and the pump is switched on again.

Management level

Automation level

Field level

Intelligent planning for building automation.

Light meter	Rain sensor	CO_2 meter	Temperature sensor	Wind meter	Fire detection system	Circuit monitoring system	Pushbutton	Movement detector

Emergency power supply	Data collection	Rainwater	Pump control	Windows open/ shut	Cooling	Heating	Visualise, communicate	Lighting	Manage energy	Control media	Monitor, secure	Ventilate	Shade

When planning large building projects building automation gains in importance. Many aspects of facility management can be easily automated using computer technology. There is also the financial aspect. The long-term operating costs for building maintenance gain greatly in importance in comparison to the building costs. Synergies can be used by intelligent networking home technologies and on average 10 to 30% of the operating costs can be saved: above all energy, maintenance and personnel. The more sensors and actuators that are incorporated the greater the saving potential. Pump technology is the greatest factor by far. Because a multitude of pumps are used for heating, cooling, air-conditioning, water supply and sewage disposal. Outdated, uncontrolled pumps are overall the most inefficient consumers of electricity. However, of those on the market the electronically controlled pumps from Wilo offer the best technological prerequisites for building automation.

Building automation with Wilo.
Perfect communication in all system environments.

Wilo's electronic pumps can be integrated really easily as intelligent actuators and sensors in a building automation system. Wilo offers both analogue and digital pump interfaces for the most varied systems requirements. These act as a link between the hydraulic circuits and the control devices of the field and automation levels and offer the greatest possible synergies in regard to cost and comfort.

Analogue interfaces.
IF-modules with the following functions can be used where conventional analogue control terminals were used:

• 0–10V for remote setpoint adjustment
• Ext.–off or Ext.–min for targeted potential-free switching and controlling
• SBM for pump operation feedback

These optional terminals can, depending on requirements, be easily integrated in the pump terminal box.

Digital interfaces.
Comprehensive operational information and control commands are best transmitted to and exchanged with the building automation system via digital interfaces. Due to the unique modular concept all electronic Wilo pumps understand different bus languages:

• Wilo IF–Module Modbus
The Modbus protocol used widely in industrial and building services is predestined for uncomplicated and high-performance applications.

• Wilo IF–Module BACnet
The connection to BACnet with the MS/TP protocol marks the first time that integrated communication between field devices and control technology has become possible. The strengths of BACnet lie in its global standardisation as a non-manufacturer specific and open protocol, its self-documentation and the associated robustness and reliability in terms of engineering and operation.

• Wilo IF–Module CAN
The increasing functionality and decentralised intelligence of electronic pumps demand ever faster and more powerful bus systems. If for instance pumps are to be controlled via a bus, very short bus cycle times are required.

• Wilo IF–Module LON
The optional Wilo IF–Module LON with the LONmark standardised Profile Pump Controller 8120 serves to form intelligent and non-manufacturer specific networks.

• Wilo IF–Module PLR
The Wilo IF–module PLR with the published PLR protocol acts as a simple and easy-to-install point to point connection. All electronic Wilo pumps are provided with the PLR protocol as usual:

• Wilo-Stratos/-Z/-D
• Wilo-VeroLine-IP-E/-DP-E
• Wilo-CronoLine-IL-E/-DL-E
• Wilo-Economy MHIE
• Wilo-Multivert MVIE
• Wilo-Multivert MVISE-2G
• Wilo-Helix VE
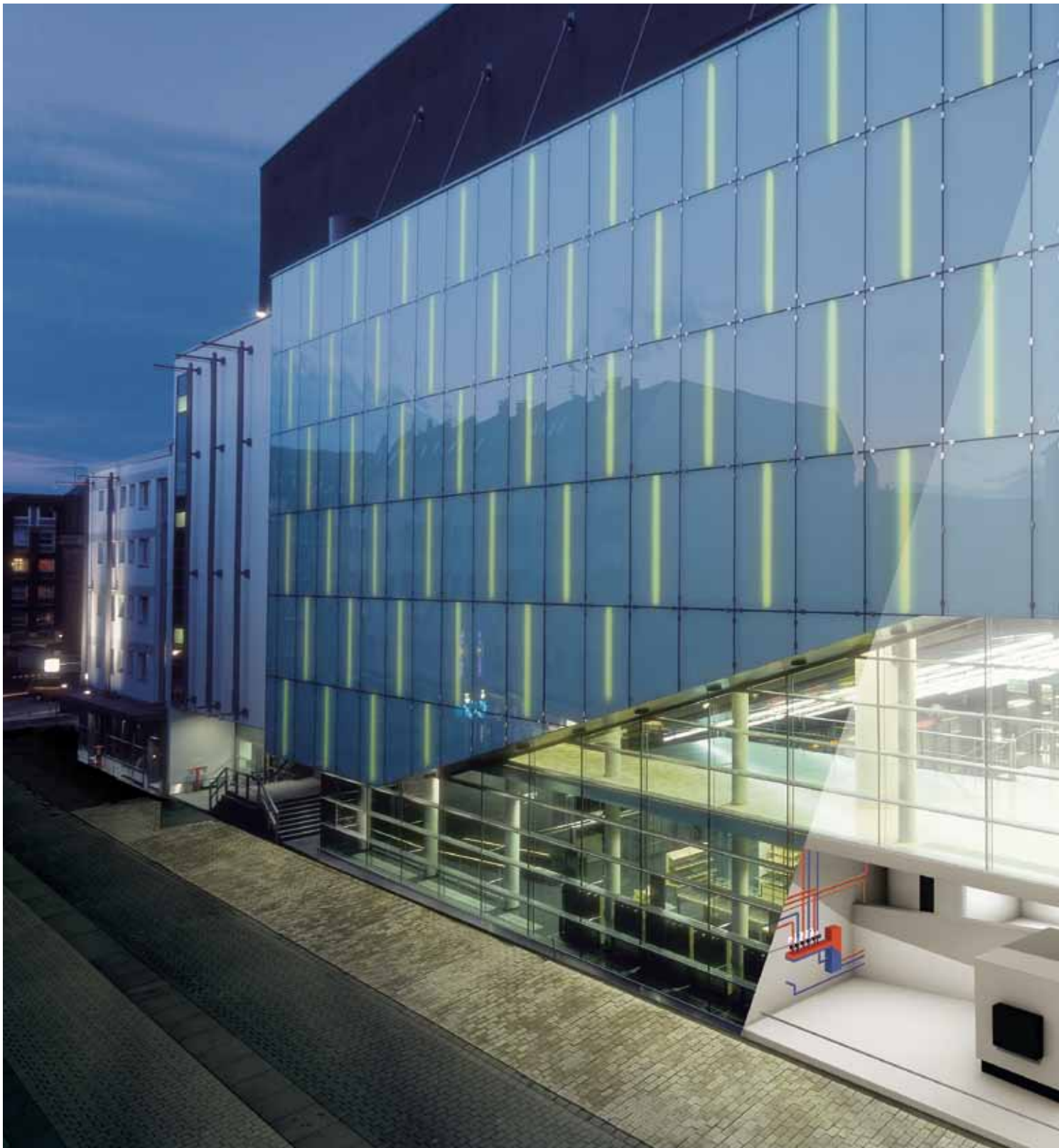
Optimum integration in all conventional automation systems.

| Wilo-Stratos | Wilo-TOP-S with Protect-Module-C | Wilo-CronoLine-IL-E | Wilo-VeroLine-IP-E | Wilo-Economy MHIE | Wilo-Helix VE | Wilo-Multivert MVISE |

Wilo-CAN.
The high-speed interface from Wilo.

That which started with the Stratos series is now standard for Wilo: the CAN high-speed interface.

This technology, already tried and tested by the automobile industry and in industrial automation, has considerable economic advantages in comparison to conventional transmission systems. Information is exchanged serially between the individual components via a single, linearly arranged bus cable. Thus saving time-consuming star-connected wiring.

The result: an enormous saving potential due to considerably lower material and labour demands, with a significant increase in functionality and capacity.

The Wilo-CAN interface also proves itself with its enormous transfer speed. By comparison to conventional systems this high-speed bus is over 100 times quicker and opens up whole new areas of application: for example the decentralised control of CAN sensors, actuators and controllers that are readily available on the market.

Wilo-CAN corresponds to the industry standard CANopen and is thus an open system. Regardless of supplier it is possible to choose and use any other system components required. As it is an actual Multimaster bus it enables spontaneous communication. This guarantees high dynamics – a standard which has proven itself a million times over in the automotive sector. The Wilo IF-Modules Modbus and BACnet also communicate with the pump through the Wilo-CAN interface.

Guaranteed downstream compatibility.
Due to the unique multi-pin communication interface existing PLR and LON standards are retained in every Wilo IF-Module (see table on page 18/19). Electronic pumps from Wilo are therefore compatible with all available connections to the building automation system and at the same time are best prepared for the high-speed future. Thus guaranteeing that all Wilo pumps speak a universal language and so too automatically speaking the building's language.

Life cycle cost: long–term savings.

Total life cycle costs € for building automation
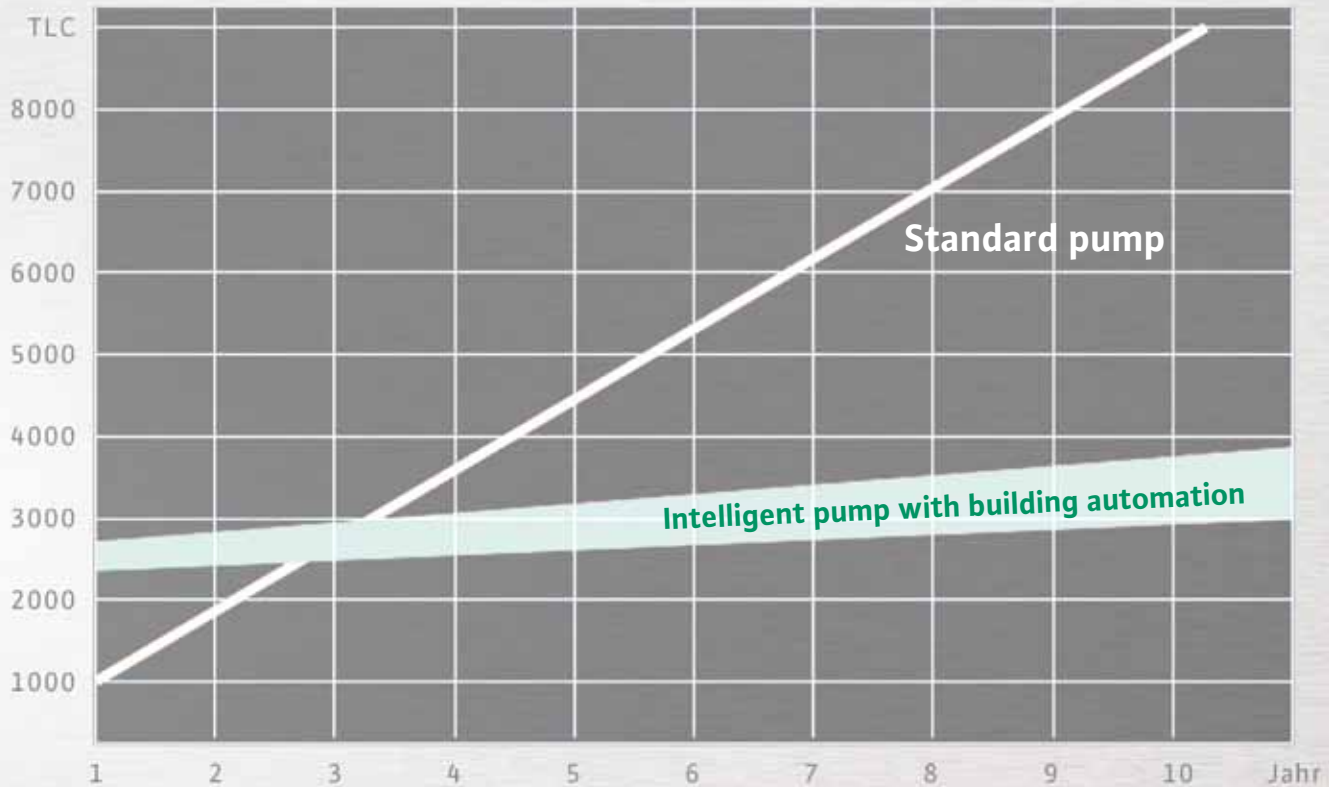
When considering the life cycle cost factors of a pump there is huge saving potential.

- Acquisition
- Installation
- Maintenance and servicing
- Energy
- Standstill
- Environmental impact
- Disposal

How economical a pump system actually is can only be seen when all additional costs are considered. In addition to the initial investment costs for pumps and accessories, operating costs incurred during the length of a pump's long service life also naturally need to be considered.

The by far largest proportion of which amounts to the energy and maintenance costs. Over the years these can total vast sums: above all for pumps that run constantly with high output. The actual acquisition costs amount to 6 % of the life cycle costs. A corresponding calculation of

the life cycle costs was carried out by Europump Hydraulic Institute based on current standards. The investment in energy saving Pumpen Intelligenz quickly pays off.

Saving energy with Wilo.
Through optimum efficiency at all duty points.

Wilo offers highly efficient pump technology for all areas of supply and disposal technology: heating, cooling, air-conditioning, water supply and sewage disposal. All Wilo electronic pumps are equipped with integrated power electronics. This latest technology from Wilo enables extraordinarily energy saving control of the pump rotation speed, especially for frequent partial-load operation. The pumps intelligently adapt their speed to actual requirements and only consume as much energy as is actually required. Because of this they, on average, only operate at peak load when most energy is consumed during operation for 20% of their operating time. Experience shows that during the rest of the time the considerably more economical partial-load area is sufficient. Annual electricity savings of up to 50% are achieved in this way. Precise speed monitoring has additional positive effects on the service life of the system and its components, and therefore also reduces servicing and maintenance costs.

Our experienced planning consultants will be more than happy to help you develop an individual solution for your particular requirements.

Wilo-Stratos
- The world's first high-efficiency pump for heating, cooling, air-conditioning
- Energy efficiency class A

Wilo-CronoLine
- One of the world's most efficient glanded pumps
- Outstanding hydrodynamics

Wilo-Multivert MVISE
- The world's first and only vertical glandless high-pressure centrifugal pump with integrated power electronics
- Ideal for pressure boosting with the lowest noise emission
- Also suitable for larger dimensioned air-conditioning systems

Benutzer1

Benutzer2

Service

2222

Saving maintenance costs with Wilo.
Through continuous control of all relevant pump data.

Modern building automation has simplified the maintenance possibilities of technical installations in a revolutionary way, as all status reports for all linked devices are continuously available via the building control panel. Irregularities and faults can always be clearly seen so that they can be targeted and be repaired or serviced if necessary.

Wilo's electronic pumps offer the best conditions for integration in a building automation system: with a multitude of useful information such as fault signals, current pressure, flow as well as run signals. Building automation makes set regular maintenance intervals unnecessary which results in an immense reduction of costs. It is often the case that our service technicians find that everything is OK when they come to carry out routine safety inspections. A study carried out by the world's second largest chemical company, Dow Chemicals showed for example that their costs for avoidable maintenance work were just as high as the production plant's actual profit: a huge saving potential.

Simple manual maintenance: with the Wilo-IR-Stick for laptop & netbook.
In addition to fully automatic maintenance via building automation, manual maintenance work is also necessary time and again, e.g. during commissioning or for service checks. As the pumps are often installed at inaccessible locations, it is not always that simple.

This is why for many years Wilo has been offering the IR-Monitor that communicates with the pumps via an infrared interface. Maintenance and servicing work can now be carried out even more effectively and with greater ease: with the Wilo-IR-Stick for laptops and netbooks, which is new and unique on the pump market. The stick in the form of a USB memory is just as easy and practical as using the USB memory. In addition to a considerably expanded range of functions in the areas of diagnostics and automation, there are also no problems with documentation. Data can be recorded in standard formats and then reprocessed.

The best is: running a software-update enables new functions to be used. The Wilo-IR-Stick is thus not only compatible with existing communication standards but is also best prepared for the future.

Wilo-IR-Stick for laptop & netbook

- Pump communication via mobile PCs
- Communicating, saving and documenting with Windows®
- All functions at a glance: thanks to high-resolution graphics displays with touchscreen

- On-site communication with all Wilo electronic pumps
- Considerable simplification of pump servicing and commissioning
- New IR high-speed communication with a noticeably increased range of functions
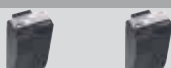
Documentation & software for IF-Module & IR-Stick on CD

Note:
If there is no CD, please order one at www.wilo.de/Services/ Informationsservice/Pumpenplanung or from WILO SE; see back cover.

Pump communication with Wilo.

All of our products at a glance.

	TOP–S/–SD/–Z	Stratos Stratos-Z/–D
Ext. control function		
Overriding off		Ext.–off/0–10V Ext.–off/SBM
Overriding Min		Ext.–min/0–10V
Control input 0 –10 V (remote speed adjustment)		Ext.–off/0–10V Ext.–min/0–10V SBM/0–10V
Control input 0–10 V (remote setpoint adjustment)		Ext.–off/0–10V Ext.–min/0–10V SBM/0–10V
Control input 0–10V (external pressure sensor)		
Control input 4–20 mA (remote speed adjustment)		
Control input 4–20 mA (external pressure sensor)		
Control input 4–20 mA (remote setpoint adjustment)		
Signalling functions		
Collective fault signal SSM (potential–free NC contact)	SSM * Page Catalogue	SSM *
Collective run signal SBM (potential–free NO contact)	SBM *	Ext.–off/SBM SBM/0–10V
Digital interfaces		
Modbus		
BACnet MS/TP		
CanOpen		
LON		
PLR		
Function interfaces		
Dual pump management		
IR–Monitor		
IR–Stick		

* – Standard equipment   1 – >7.5 kW available beginning September 2011

VeroLine IP-E/DP-E	CronoLine IL-E/DL-E	Economy MHIE	Multivert MVISE-2G	Multivert MVIE[1]	Helix VE
Ext.-off *	Ext.-off *	Ext.-off *	Ext.-off *	Ext.-off *	Ext.-off *
0–10V*	0–10V*	0–10V*	0–10V*	0–10V*	0–10V*
0–10V*	0–10V*	0–10V*	0–10V*	0–10V*	0–10V*
0–10V*	0–10V*	0–10V*	0–10V*	0–10V*	0–10V*
4–20 mA *	4–20 mA *	4–20 mA *	4–20 mA *	4–20 mA *	4–20 mA *
4–20 mA *	4–20 mA *	4–20 mA *	4–20 mA *	4–20 mA *	4–20 mA *
4–20 mA *	4–20 mA *	4–20 mA *	4–20 mA *	4–20 mA *	4–20 mA *
SSM (CO)*	SSM (CO)*	SSM (CO)*	SSM (CO)*	SSM (CO)*	SSM (CO)*
SBM (CO)*	SBM (CO)*	SBM (CO)*	SBM (CO)*	SBM (CO)*	SBM (CO)*
*	*				

Pump communication with Wilo.
Optional IF-Modules for every requirement.

Integrated dual pump interface.

IF-Module Modbus	IF-Module Stratos Modbus	Modbus RTU
NEW!	**NEW!**	
IF-Module BACnet	IF-Module Stratos BACnet	BACnet MS/TP
NEW!	**NEW!**	
IF-Module CAN	IF-Module Stratos CAN	CANopen
IF-Module LON	IF-Module Stratos LON	LON FTT10A
IF-Module PLR	IF-Module Stratos PLR	DigiCon (RS485)
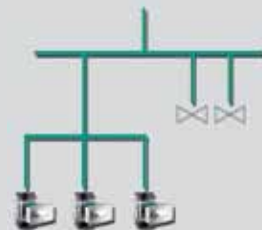
Integrated dual pump interface.
All Wilo IF-Modules have standardised dual pump interfaces on board, where these aren't built into the pump already. So the intelligent dual pump control is already provided as part of the electronic pumps. This provides improved pump availability and additional energy savings in dual-pump operation.

IF-Module Modbus.
With the Modbus interface, Wilo provides an industrial standard proven world-wide. The protocol structure is as simple as it is widespread. The widespread RS485 technology with the RTU protocol is used.

Advantages:
• Less wiring required thanks to linear structure with RS485
• Transmission speed up to 38400 Baud
• Simple, open protocol
• Simple coupling to Ethernet (Modbus/TCP) via router
• Industrial standard

BACnet IF-Module.
The BACnet world-wide standard for building automation combines manufacturer independence with simple engineering. The available data points and their descriptions are delivered directly by the IF-Module in plain language.

Advantages:
• Less wiring required thanks to linear structure with RS485
• High transmission speed
• High functionality
• Multimaster capability
• Simple coupling to other media such as Ethernet via standardised routers

IF-Module CAN.
The Wilo-CAN interface with considerably greater functionality and performance than all other previous pump interface systems. Based on components and software tools tried and tested in the automobile industry. Actual Multimaster operation for the formation of intelligent control and regulating networks with varying sensors and actuators. Apparatus from system providers as well as gateways and I/O modules can be connected simply due to the CANopen standard.

Advantages:
• Less wiring required
• High transfer speed and functionality
• Open standard protocol CANopen
• Multimaster capability

IF-Module LON.
Standardised and non-manufacturer-specific bus system for developing local networks consisting of intelligent sensors, actuators and controllers for free bus wiring. Communication is object-oriented via so-called standard network variable types (SNVT). These are described in the released Functional profile: pump controller 8120.

Advantages:
• Universal bus standard
• Less wiring required with free bus topology

IF-Module PLR.
The tried and tested, simple to install digital interface for all Wilo electronic pumps. The released PLR protocol enables connection to apparatus from numerous other system providers and connection to the Wilo interface converters DigiCon (RS485) and AnaCon.

Advantages:
• Anti-rotational connection
• Optional cabling
• Interference-free data transmission
• No addressing

Pump communication with Wilo.
Overview and benefits of selected pump data.

	Category	Stratos-Z/-D	VeroLine IP-E/DP-E	CronoLine IL-E/DL-E	Economy MHIE	Multivert MVISE-2G	Multivert MVIE
Input data							
Operating mode	(S)	X	X	X	X	X	X
Setpoint	(S)	X	X	X	X	X	X
Pump on/off	S	X	X	X	X	X	X
Overriding min / max	S	X	X	X	X	X	X
Output data							
Status and fault signals	S	X	X	X	X	X	X
Set operating mode and setpoint	S	X	X	X	X	X	X
(Differential) pressure	P	(1)	X	X	X	X	X
Flow	P	(2)	(2)	(2)			
Power [W] Energy measurement [kWh] Operating hours [h]	B	x x x	x x x	x x x	x x x	x x x	x x x
Fluid temperature	P	(3)					

Notes:

(1)   Calculated value
(2)   Value calculated from duty point and hydraulic pump curve, not necessarily suitable for control purposes
(3)   Sensor integrated in the motor housing, precision and time constant dependent on the installation environment
(S), (B), (P)   Data category, see following section

Benefits of pump data

The possibilities for communication with Wilo pumps were described in the previous sections. The benefits of the transferred information for the user are summarised in the following.

Control data (S)

The control data include, for example the adjusted setpoint and also the actual setpoint in effect. This means that any situations where the limits are exceeded or not maintained will be readily recognised, thus avoiding a malfunction of the higher-level controller caused by a non-achievable setpoint. The status signals are also numbered among the control data. Whether or not and in which operating mode the pump is running can be detected. The signals can be evaluated in differential fashion in place of the usual collective fault and collective run signal and enable targeted reactions to events as appropriate.

Operating data (B)

The collection and evaluation of operating data supports the user in connection with the evaluation of the efficiency of the pump. The expenditure for the operation can be read off directly on the basis of the energy consumed and/or on the power being currently drawn and on the operating hours. These data can then be used as a basis for optimisation as appropriate.

Process data (P)

The data for this category as well as for current pressure and flow provide valuable information about the process. On the basis of the flow, for example, it can be determined whether the pump is working against the (almost) closed gate valve and whether the delivery head can be reduced for the purpose of energy savings. In the case of circulation pumps, the flow information is the basis for the operating mode delta p-v, which can readily implement considerable energy savings. Controller parameters can also be optimised with respect to flow. The delivery head which is actually achieved indicates whether the pump is working in the normal operating range and thus whether the installed control is functioning as desired.

Glossary.
The most important terms of building automation.

Actuator: Counterpart to a sensor. Converts electrical signals of a control into (mostly) mechanical action such as pressure and flow, for example.

Address: Prerequisite for the communication with devices within a bus system.

BACnet: Internationally defined company-neutral standard for data communication with building automation systems (ISO 16484-5).

Baud: Unit of speed for serial data transfer. Example: 125 KBit = 125,000 bits/second.

Bit: Smallest information unit, recognises only two statuses: Zero (0) or One (1); see also Byte

Building automation: Building automation is divided into three levels. The field level, the automation level and the management level. The control centre is on the uppermost level, namely the management level.

Bus: Pipeline system for the exchange of data between several hardware components.

Byte: Information unit, comprised of 8 bits

CAN: Serial bus system originally developed for the automobile industry which in the meantime is used frequently in automation technology.

CANopen: Extension of the CAN standard to include application-related definitions, electronic data sheet files and profiles. Facilitates system integration and was compiled by the CAN in Automation (CiA) association.

Facility management: Integrated monitoring of buildings estates and operational processes, with the aim of permanently reducing operating and running costs, making fixed costs more flexible, securing the technical reliability of the installations and retaining the long-term value of buildings and installations.

Gateway: Device which converts the protocols of differing bus systems therefore enabling the connection of different networks. The data to be transferred must be defined individually for each application (see also Router).

IF-Module: Plug-in module for upgrading electronic pumps with analogue and digital and interfaces.

IR-Stick: Infrared interface for non-contact communication between electronic pumps and a commercially available PC/laptop.

LON: Open non-manufacturer specific bus system, primarily for building automation.

Master/Slave: Bus architecture in which an upper-level station (master, active) controls communications with the other consumers (slaves, passive). See also Multimaster.

Modbus: Communication protocol based on a master/slave architecture. Ethernet and RS485 are used as transfer media.

Multimaster: Active access to several consumers (masters) on a bus. Important for the formation of a network with distributed intelligence.

PDA: Personal Digital Assistant. Small personal computer with SDIO slot for memory cards or other hardware components. Basis for the IR communication with Wilo electronic pumps.

PLR: Pump master computer. Released pump protocol for digital communication with Wilo electronic pumps for incorporation in the building automation system.

Profibus: Industrial data bus with Multimaster communication capability.

RS232: Serial data interface between computer and for example a printer or screen.

RS485: Industrial serial bus interface. Hardware-platform for differing bus systems.

Router: Device which forwards messages between different networks. Only the communications parameters, and not the data which are to be individually transferred, need to be defined for the application (see also Gateway).

Sensor: Technical component which converts certain physical characteristics such as pressure or flow into signals.

Wilo – International (Subsidiaries)

Argentina
WILO SALMSON
Argentina S.A.
C1295ABI Ciudad
Autónoma de Buenos Aires
T+ 54 11 4361 5929
info@salmson.com.ar

Austria
WILO Pumpen
Österreich GmbH
2351 Wiener Neudorf
T +43 507 507-0
office@wilo.at

Azerbaijan
WILO Caspian LLC
1014 Baku
T +994 12 5962372
info@wilo.az

Belarus
WILO Bel OOO
220035 Minsk
T +375 17 2535363
wilo@wilo.by

Belgium
WILO SA/NV
1083 Ganshoren
T +32 2 4823333
info@wilo.be

Bulgaria
WILO Bulgaria Ltd.
1125 Sofia
T +359 2 9701970
info@wilo.bg

Canada
WILO Canada Inc.
Calgary, Alberta T2A 5L4
T +1 403 2769456
bill.lowe@wilo-na.com

China
WILO China Ltd.
101300 Beijing
T +86 10 58041888
wilobj@wilo.com.cn

Croatia
WILO Hrvatska d.o.o.
10090 Zagreb
T +38 51 3430914
wilo-hrvatska@wilo.hr

Czech Republic
WILO Praha s.r.o.
25101 Cestlice
T +420 234 098711
info@wilo.cz

Denmark
WILO Danmark A/S
2690 Karlslunde
T +45 70 253312
wilo@wilo.dk

Estonia
WILO Eesti OÜ
12618 Tallinn
T +372 6 509780
info@wilo.ee

Finland
WILO Finland OY
02330 Espoo
T +358 207401540
wilo@wilo.fi

France
WILO S.A.S.
78390 Bois d'Arcy
T +33 1 30050930
info@wilo.fr

Great Britain
WILO (U.K.) Ltd.
DE14 2WJ Burton-
Upon-Trent
T +44 1283 523000
sales@wilo.co.uk

Greece
WILO Hellas AG
14569 Anixi (Attika)
T +302 10 6248300
wilo.info@wilo.gr

Hungary
WILO Magyarország Kft
2045 Törökbálint
(Budapest)
T +36 23 889500
wilo@wilo.hu

India
WILO India Mather and
Platt Pumps Ltd.
Pune 411019
T +91 20 27442100
service@
pun.matherplatt.co.in

Indonesia
WILO Pumps Indonesia
Jakarta Selatan 12140
T +62 21 7247676
citrawilo@cbn.net.id

Ireland
WILO Engineering Ltd.
Limerick
T +353 61 227566
sales@wilo.ie

Italy
WILO Italia s.r.l.
20068 Peschiera
Borromeo (Milano)
T +39 25538351
wilo.italia@wilo.it

Kazakhstan
WILO Central Asia
050002 Almaty
T +7 727 2785961
info@wilo.kz

Korea
WILO Pumps Ltd.
621-807 Gimhae
Gyeongnam
T +82 55 3405890
wilo@wilo.co.kr

Latvia
WILO Baltic SIA
1019 Riga
T +371 7 145229
mail@wilo.lv

Lebanon
WILO SALMSON
Lebanon
12022030 El Metn
T +961 4 722280
wsl@cyberia.net.lb

Lithuania
WILO Lietuva UAB
03202 Vilnius
T +370 5 2136495
mail@wilo.lt

The Netherlands
WILO Nederland b.v.
1551 NA Westzaan
T +31 88 9456 000
info@wilo.nl

Norway
WILO Norge AS
0975 Oslo
T +47 22 804570
wilo@wilo.no

Poland
WILO Polska Sp. z.o.o.
05-090 Raszyn
T +48 22 7026161
wilo@wilo.pl

Portugal
Bombas Wilo-Salmson
Portugal Lda.
4050-040 Porto
T +351 22 2080350
bombas@wilo.pt

Romania
WILO Romania s.r.l.
077040 Com. Chiajna
Jud. Ilfov
T +40 21 3170164
wilo@wilo.ro

Russia
WILO Rus ooo
123592 Moscow
T +7 495 7810690
wilo@wilo.ru

Saudi Arabia
WILO ME – Riyadh
Riyadh 11465
T +966 1 4624430
wshoula@wataniaind.com

Serbia and Montenegro
WILO Beograd d.o.o.
11000 Beograd
T +381 11 2851278
office@wilo.co.yu

Slovakia
WILO Slovakia s.r.o.
83106 Bratislava
T +421 2 33014511
wilo@wilo.sk

Slovenia
WILO Adriatic d.o.o.
1000 Ljubljana
T +386 1 5838130
wilo.adriatic@wilo.si

South Africa
Salmson South Africa
1610 Edenvale
T +27 11 6082780
errol.cornelius@
salmson.co.za

Spain
WILO Ibérica S.A.
28806 Alcalá de Henare
(Madrid)
T +34 91 8797100
wilo.iberica@wilo.es

Sweden
WILO Sverige AB
35246 Växjö
T +46 470 727600
wilo@wilo.se

Switzerland
EMB Pumpen AG
4310 Rheinfelden
T +41 61 83680-20
info@emb-pumpen.ch

Taiwan
WILO-EMU Taiwan Co. Ltd.
110 Taipeh
T +886 227 391655
nelson.wu@
wiloemutaiwan.com.tw

Turkey
WILO Pompa Sistemleri
San. ve Tic. A.Ş.
34888 Istanbul
T +90 216 6610211
wilo@wilo.com.tr

Ukraina
WILO Ukraina t.o.w.
01033 Kiew
T +38 044 2011870
wilo@wilo.ua

United Arab Emirates
WILO Middle East FZE
Jebel Ali Free Zone –
South – Dubai
T +971 4 880 91 77
info@wilo.ae

USA
WILO-EMU USA LLC
Thomasville,
Georgia 31792
T +1 229 5840097
info@wilo-emu.com

WILO USA LLC
Melrose Park, Illinois 60160
T +1 708 3389456
mike.easterley@
wilo-na.com

Vietnam
WILO Vietnam Co Ltd.
Ho Chi Minh City, Vietnam
T +84 8 38109975
nkminh@wilo.vn

Wilo – International (Representation offices)

Algeria
Bad Ezzouar, Dar El Beida
T +213 21 247979
chabane.hamdad@salmson.fr

Armenia
0001 Yerevan
T +374 10 544336
info@wilo.am

Bosnia and Herzegovina
71000 Sarajevo
T +387 33 714510
zeljko.cvjetkovic@ wilo.ba

Georgia
0179 Tbilisi
T +995 32 306375
info@wilo.ge

Macedonia
1000 Skopje
T +389 2 3122058
valerij.vojneski@wilo.com.mk

Mexico
07300 Mexico
T +52 55 55863209
roberto.valenzuela@wilo.com.mx

Moldova
2012 Chisinau
T +373 22 223501
sergiu.zagurean@wilo.md

Rep. Mongolia
Ulaanbaatar
T +976 11 314843
wilo@magicnet.mn

Tajikistan
734025 Dushanbe
T +992 37 2312354
info@wilo.tj

Turkmenistan
744000 Ashgabad
T +993 12 345838
kerim.kertiyev@wilo-tm.info

Uzbekistan
100015 Tashkent
T +998 71 1206774
info@wilo.uz