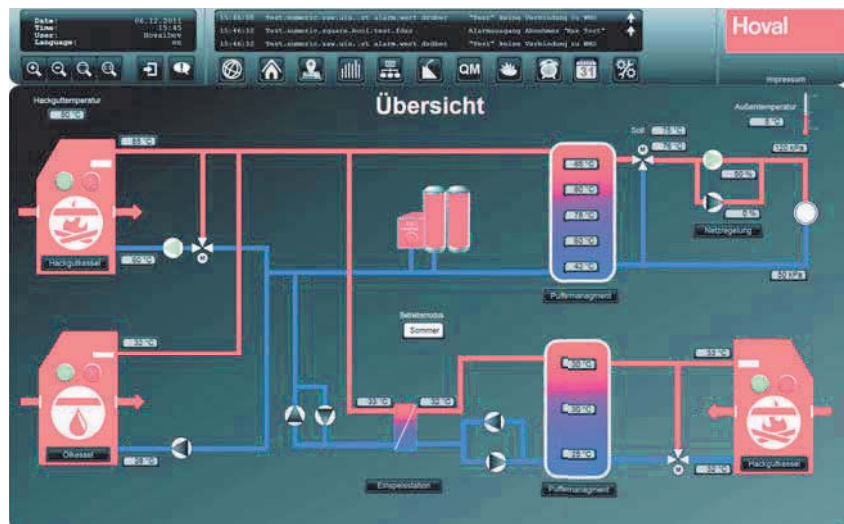


■ Description

TopTronic® supervisor  
instrumentation & control system

TopTronic® supervisor is used for visualising the system statuses, error messages, actual and nominal values of the entire district heating system, for graphical display of the heating house and network control in order to be able to complete and analysis of procedures and, furthermore, to permit an optimisation.

- Complete project overview with all controllers and connected heat meters, network temperatures and network pressures
- Display of the hydraulic diagram of the consumer with the values it contains. This means for every single connected district heating transfer station, the secondary network that is also supplied is visualised separately, incl. the recorded physical parameters (temperature, flow rate, heat meter)
- Sorting the consumer overview by name, current power, current flow rates, supply and return temperatures, accumulator temperatures and heat meter data
- Visualisation of the entire amount of heat drawn, current power, amount of heat drawn from the district heating network in the current heating season
- Statistic evaluation of recorded and archived data via graph plotter and tables, in which case heat meter readings can be read out via the MBus interface on the heat meter
- Recording of all adjustable parameters, switching times, counter data, temperatures of the sensors and switch settings (operating mode switch)
- Central synchronisation of the date/time of the TopTronic® E basic module district heating com by the TopTronic® supervisor instrumentation & control system
- Direct setting of output relays or activation of heating circuits of the controller via TopTronic® supervisor
- Evaluation of communication between the controller and the TopTronic® supervisor instrumentation & control system with fault analysis
- Display of external differential pressure transmitters or pressure sensors via free, analog inputs of the TopTronic® E basic module district heating com district heating controller
- Complete alarm handling, i.e. logging of all alarms such as sensor break, communication fault, etc. with date and time, and forwarding of messages
- Optional optimisation of the cost effectiveness and energy distribution by controlling external energy sources by switching consumers on or off.
- Optional display of the network diagram, district or town map and direct selection of the consumer with presentation of heat meter data and the function switch
- Optional display of the heating house with visualisation of the individual heat generators, system components and corresponding information parameters
- Optional display of warning messages from leakage warning devices on TopTronic® supervisor



- Optional display of a web cam for visual monitoring of various system parts
- Optional use of the QM interface, i.e. evaluation of all customers and the data relevant to the heating house, and export into the QM document provided for this purpose

**Functions**

- Central firmware update for all connected controllers
- Several users can access the system simultaneously because of the integrated multi-user system
- Access via smartphone, tablet PC or display with web browser is possible without installing additional software
- All customer and heat meter data is encrypted for transmission from the individual controllers to the TopTronic® supervisor instrumentation & control system, as a result of which no consumption or customer data can be recorded or manipulated by third parties.
- Data can be exchanged between various systems (ERP or higher-level systems) using an OPC UA server

- All functions are subject to the user rights check, with different levels available (heating caretaker, owner, customer service)
- Remote diagnosis and maintenance of the entire system are possible via the Internet

**Application**

- For energy-efficient operation of the entire district heating network by transparency
- Hoval TopTronic® supervisor instrumentation & control system communicates not only with the communicating TopTronic® E basic module district heating com heating controller but also with third-party products (interface definition required), and can thus be used in a variety of applications
- For straightforward integration of heat generators and other data points into a general system on the basis of the OPC UA server

■ Part No.



Accessory for the communicating district heating network with TopTronic® E basic module district heating com heating controller

Part No.

**Ethernet connection**

2044 995

**TopTronic® E district heating com**

- Communications module expansion for TopTronic® E basic module district heating com
- TCP/IP interface for communication with the Hoval TopTronic® supervisor management system
- Top hat rail mounting directly adjacent to the basic module
- Connection to the basic module via ribbon cable
- Dimensions: 46 x 125 x 51 (L x W x H)



**TopTronic® E district heating com LON bus repeater**

2045 034

- Repeater as electrical signal booster of the LON bus network
- Used for boosting the range of the signal when there are long distances between the control centre and the individual TopTronic® E basic module district heating com controller modules
- Positioning of the repeaters depending on the data network (routing type, cable type, length, etc.) at different positions in the network
- Electrical power supply 230 VAC
- Dimensions: 71 x 92 x 60 (L x W x H)

**Notice**

After 5 repeaters, a router must be used for boosting the signal. Article on request.



**Router TopTronic® E district heating com Ethernet on LON bus**

2045 001

- Interface between Hoval LON bus network and TopTronic® supervisor
- Functions as a physical interface between the data stream from the district heating network and a master computer with TCP/IP interface, for example
- Possibility for evaluating connected differential pressure sensors by variable inputs/outputs 0-10 V or 4-20 mA
- Router can be installed in the control panel with DIN rail mounting
- Dimensions: 273 x 125 x 95 (L x W x H)

Display TopTronic® com/router TTE-FW for operating the router (optional) and mating connector set must be ordered separately.



**Router TopTronic® E district heating com Ethernet on Ethernet**

6032 266

- Interface between the Hoval TCP/IP network and TopTronic® supervisor
- Functions as a physical interface between the data stream from the district heating network and a master computer with TCP/IP interface, for example
- Possibility for connecting differential pressure sensors by variable inputs 0-10 V or 0/4-20 mA
- Router can be installed in the control panel with DIN rail mounting
- Provide 12 V mains adapter for electrical power supply on site
- Dimensions: 355 x 125 x 95 (L x W x H)

Display TopTronic® com/router TTE-FW for operating the router (optional) and mating connector set must be ordered separately.

■ Part No.

Part No.



**TopTronic® com display/TTE FW router**

2044 952

- Display with splash water-protected membrane keypad for installation in the front of the control panel
- 4-line alphanumeric, illuminated display
- Light-emitting diodes for displaying the operating statuses



**Mating connector set router/TopTronic® com**

6030 656

Comprising all RAST5 mating connectors for connection of sensors and actuators to the router or to the TopTronic® com district heating controller



**Data socket TopTronic® E district heating com**

2061 738

**LonBus and lightning protection**

- Data socket for connecting the telecommunication cable at the building connection
- Connection must be made according to the appropriate applicable regulations
- Data sockets must also be installed with dummy connections
- 1 pce. input block 13-pin
- 2 pcs. output blocks each 13-pin
- 2 pcs. 3-pin outputs to controller and repeater
- Damp room socket IP55, dimensions: 180 x 140 x 75 (L x W x H), incl. 10 stepped nipples

■ Part No.

Software licences  
for TopTronic® supervisor  
(incl. service in some cases)

Part No.



- TopTronic® supervisor software licence**
- For visualisation of the system statuses, error messages, actual and nominal values of the entire district heating system
  - For graphical display of the heating house and network control
  - In order to complete an analysis of sequences and subsequently to be able to perform an optimisation
  - Multi-user system; simultaneous access of several workplaces possible via upgrade

2053 182



- TopTronic® supervisor software licence for Beckhoff PLC**
- TopTronic® supervisor in a reduced variant for installation on the web server of a Beckhoff PLC
  - Used with district heating networks with decentralised heating plants, network pumping stations, etc.
  - Visualisation of the heating plant or the network pumping station directly on the spot, irrespective of the connection to the central TopTronic® supervisor instrumentation & control system, at the same time as complete integration into the central instrumentation & control system (requires the licence for visualising the heating house)
  - Integrated alarm management
  - Integrated graph plotter for a restricted period (depending on memory and the number of data points)

2053 024



- TopTronic® supervisor software licence Schmid solid fuel boiler package**
- Consisting of:
- TopTronic® supervisor software licence
  - Visualisation of heating house incl. licence
  - Setting up quality management incl. licence
  - Licence for Schmid visualisation

6034 159

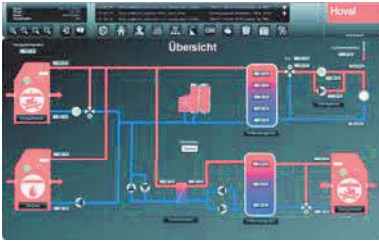


- Software licence for OPC UA server**
- Consisting of:
- Hoval OPC UA server serves as an interface between the Hoval district heating network and the customer instrumentation & control system
  - Hoval OPC UA server creates the connection between the TopTronic®com router and the district heat controllers TopTronic® E basic module district heating com
  - A TopTronic® com router is always required for communication!
  - Distributed use in network so it is possible to have OPC client and OPC UA server on different computers

2056 072

■ Part No.

Part No.



**Visualisation of heating house incl. licence**

6031 116

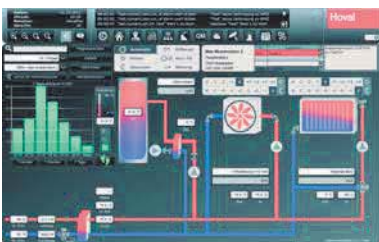
- Creation of a system-related diagram for the heating house with the existing heat generators, system components, buffer storage tanks, network pumps, etc.
- Display and integration of the diagram on the TopTronic® supervisor instrumentation & control system
- Display of the statuses of the individual components, i.e. visualisation of whether heat generators or network pumps have switched on or off
- Display of other information parameters such as various sensor values in the visualisation for better indication of the current heating house situation
- This requires availability of the individual data points of individual heat generator and other system components



**TopTronic® supervisor software update incl. installation**

6031 117

- Successive further development of Top-Tronic® supervisor means that software expansions are carried out on a continuous basis
- SW updates cannot be provided automatically to each customer subsequently, but the customer does have the opportunity to apply for them
- Each SW update contains an indicated number and description of added functions
- By buying the update, the customer receives the right to use the newly added functions
- The SW update is installed on the customer's master computer; the package includes 1 day of installation work



**Display of controllers incl. licence**

6034 714

- Display and integration of consumers on the TopTronic® supervisor instrumentation & control system
- Creation of consumer data (name, phone number, address, additional information, etc.)
- If necessary, setting up the coordinates for the position of the consumer in the network diagram
- Checking the quality of the connection from the master computer to the district heating controller

■ Part No.



- Creation of network diagram incl. licence**
- Creation of a network diagram, district or city map with the position of each consumer by means of their coordinates and the possibility of showing additional layers
  - Display of the most important information (address, operating mode, amount of heat drawn, current supply and return temperature) for this consumer in the overview of the diagram
  - Geographical placement of the heating house in the overview
  - Possibility of direct access to the consumer or the heating house by means of the overview
  - Complete integration of the network diagram into TopTronic® supervisor
  - Images and/or network diagram provided by the client

Part No.

6031 118



- Display of leakage warning incl. licence**
- Display of information from one or more leakage warning devices on TopTronic® supervisor
  - Complete integration of the network diagram into TopTronic® supervisor by visualisation of the error message on the user interface and processing of the fault by alarm management
  - Inputs on the TopTronic® E basic module district heating com permit display of the relay outputs on the leakage warning devices on various exposed points in the district heating network that are to be monitored
  - Local cabling by the client

6031 119



- Web cam display incl. licence**
- Monitoring of various system parts of the district heating network by web cam
  - Display of the video signal from one or more web cams on TopTronic® supervisor, with selection function using a separate menu
  - This requires correct access to the corresponding video stream of the web cam(s)
  - Complete integration into TopTronic® supervisor, but without data storage
  - Local cabling by the client

6031 120



- Setting up quality management incl. licence**
- For QM, the QM interface of TopTronic® supervisor supplies relevant data about the district heating system
  - Data relevant to the customer and heating house can be selected on TopTronic® supervisor incl. specifying the corresponding period, and exported into the QM document provided for this purpose
  - Complete integration into TopTronic® supervisor if interfaces to heat generators and various meters are available

6031 121