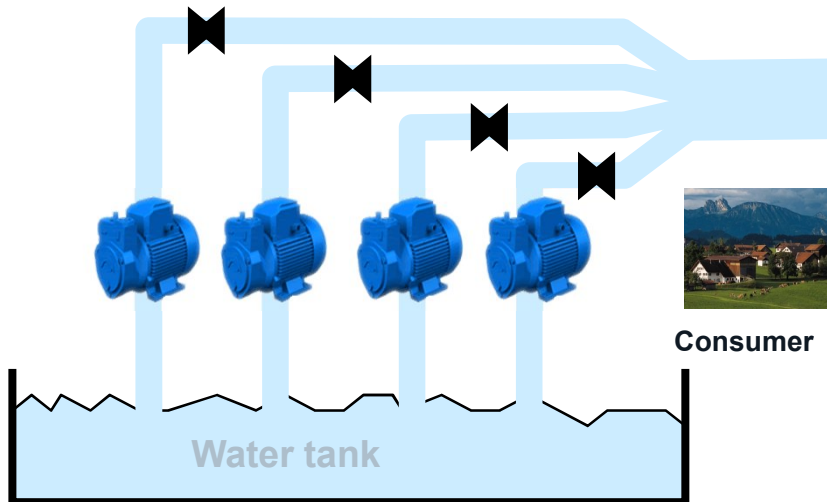


# Set 8 - Simple Networking and Cascading of Drives

## Task

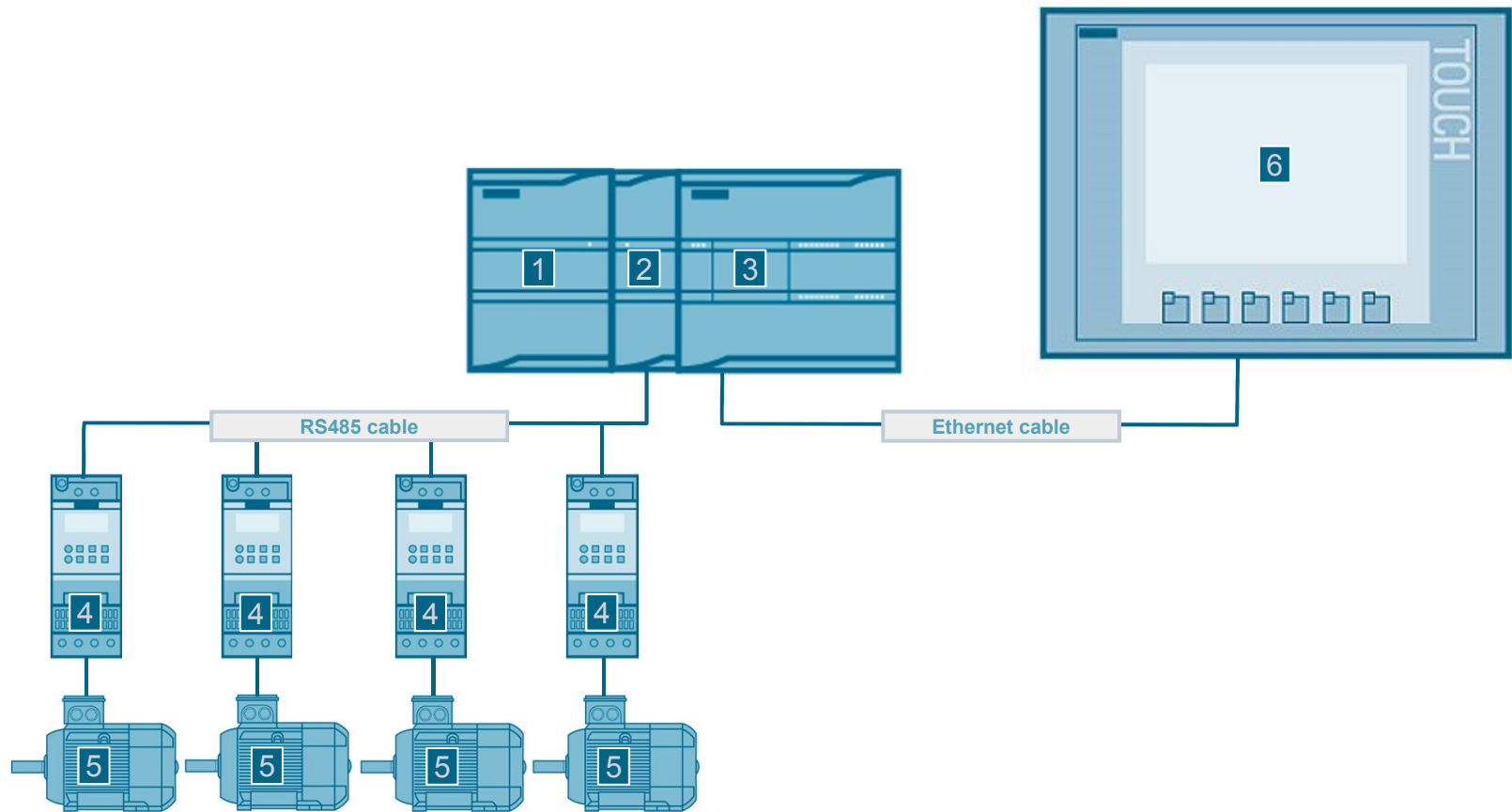


- The water supply of a consumer is to be controlled depending on its need by means of cascading pumps.
- When the pumps are switched on, it is to be ensured that the runtimes of the pumps are equally distributed over a longer period of time.
- If maintenance needs to be carried out at one pump, its activity is to be taken over automatically by another free pump.

Scan the  
code  
to get more  
information!





# Set 8 - Simple Networking and Cascading of Drives Automation Solution



- |   |         |   |               |   |           |   |   |   |                |   |              |
|---|---------|---|---------------|---|-----------|---|---|---|----------------|---|--------------|
| 1 | PM 1207 | 2 | CM 1241 RS485 | 3 | CPU 1214C | 4 | SINAMICS G110 with Basic Operator Panel | 5 | Asynchr. motor | 6 | KTP600 Basic |
|---|---------|---|---------------|---|-----------|---|---|---|----------------|---|--------------|




# Set 8 - Simple Networking and Cascading of Drives

## Main Components

		Product	Function description
1		<b>Power supply S7-1200 PM 1207</b>  Article no. <b>6EP1 332-1SH71</b>	<ul style="list-style-type: none"> <li>Power supply for the CPU 1214C and KTP600 Basic</li> </ul>
2		<b>Communication module CM 1241, RS485</b>  Article no. <b>6ES7 241-1CH30-0XB0</b>	<ul style="list-style-type: none"> <li>Communication with SINAMICS G110 via USS protocol</li> </ul>
3		<b>CPU 1214C, DC/DC/DC</b>  Article no. <b>6ES7 214-1AE31-0XB0</b>	<ul style="list-style-type: none"> <li>Controlling the pump speed</li> </ul>
4	  	<b>SINAMICS G110 USS</b>  Article no. <b>6SL3211-0AB11-2UB1</b>  <u>with</u>  <b>SINAMICS G110 with Basic Operator Panel</b>  Article no. <b>6SL3255-0AA00-4BA1</b>	<ul style="list-style-type: none"> <li>Frequency transducer for controlling the pump</li> </ul>

# Set 8 - Simple Networking and Cascading of Drives

## Main Components

		Product	Function description
5		<b>SIMOTICS GP low-voltage devices</b>  <b>Article no.</b> <b>1LA7060-4AB10</b>	<ul style="list-style-type: none"> <li>Driving the pump</li> </ul>
6		<b>SIMATIC HMI KTP600 BASIC COLOR PN</b>  <b>Article no.</b> <b>6AV6 647-0AD11-3AX0</b>	<ul style="list-style-type: none"> <li>Operating the pumps in manual and in automatic mode</li> <li>Displaying the utilization of the individual pumps</li> <li>Setting the required overall pump output</li> </ul>
7		<b>SIMATIC STEP 7 BASIC V13</b>  <b>Article no.</b> <b>6ES7822-0AA03-0YA5</b>	<ul style="list-style-type: none"> <li>Software for programming the CPU 1214C</li> <li>Configuration of the KTP600 Basic Panel</li> </ul>

# Set 8 - Simple Networking and Cascading of Drives

## Further Information

### Benefits

- No downtime during maintenance
- Equal utilization of the individual pumps
- Various pump types can be used due to the reversal of the rotation direction

### Range of use

- Water supply in multi-family houses and office buildings
- Cooling water supply in power stations

### Similar topics

- PI controller for simple applications (Set 23, link: [23753479](#))

### Further information

- LOGO! and S7-1200 Sets: [www.siemens.de/support.automation.applikationen](http://www.siemens.de/support.automation.applikationen)
- Service and Support Portal: <http://support.automation.siemens.com/>

## Set 8 - Simple Networking and Cascading of Drives

### Security Information

For the secure operation of Siemens products and solutions, it is necessary to take suitable preventive action (e.g. cell protection concept) and integrate each component into a holistic, state-of-the-art industrial security concept. Third-party products that may be in use should also be considered. For more information about industrial security, visit <http://www.siemens.com/industrialsecurity>.