Welcome to the features training module for ACS880-04 industrial drive modules.
ACS880-04 single drive modules are optimized for easy and cost-efficient cabinet assembly. This power intensive drive module is compatible with a wide range of industries including oil and gas, mining, metals, chemicals, cement, power plants, material handling, pulp and paper and woodworking and many more.

For industries such as:
- Utility and process industries
- Oil and gas, mining, metals, chemicals, cement
- Power plants, material handling, pulp and paper and woodworking and many more

For applications such as:
- Basic and high performance constant torque applications
- Cranes, extruders, conveyors, compressors to pumps and fans

ACS880-04 single drive modules are optimized for easy and cost-efficient cabinet assembly. This power intensive drive module is compatible with a wide range of industries including oil and gas, mining, metals, chemicals, cement, power plants, material handling, pulp and paper and woodworking. Applications range from cranes, extruders, conveyors, compressors to pumps and fans.
The ACS880-04 comes in two frame sizes, R10 and R11. The power range is from 250 kW to 710 kW.

The product is a single drive module. The main customers are original equipment manufacturers (OEM) and system integrators (SI). The design is the most compact on the market concerning products with power at least up to 500 kW. The highest flexibility on the market refers to hardware and software solutions as well as to options. The drive is very robust and easy to maintain.
The ACS880-04XT is a power extension to the ACS880-04 consisting of two modules. ACS880-04XT is sold as a package, which includes two modules with the plus code option +P943 and a BCU control unit. The modules are not compatible with a ZCU control unit.
This slide introduces the standard configuration of the ACS880-04. (The unit is ordered without plus codes.) The standard configuration covers most of the needs of most of the customers: The drive is IP20 by default and includes a control panel and the pedestal as standard. (The pedestal and IP20 shrouds can be seen in the picture.)

The +H381 full cabling unit allows cabinet installation prior the module is in the cabinet. Therefore, the cabling units must be fixed into the cabinet mechanics. The shrouds are secured into the module itself.

The cabling has to be done before the module is inside the cabinet. The cabling can be inserted from the top or from the side, depending on the drive features.

Full size cable terminals are at the output as standard. Similar to flexibars, they give more surface for the full size cables to be connected. Full size cable terminals are available as an option for the input side. A cable connected movable control panel comes also as standard. The control panel is needed for commissioning the drive, even if the commissioning is done by using a PC tool, since the control panel works also as a USB converter. In the standard configuration the control unit is external.
The ACS880-04XT standard package includes:

- Two ACS880-04+/P943 modules
- BCU-02 control unit kit with 3 meter cable
- Common mode filters
- Wheeled pedestal + ramp + guiding plate for the cabinet floor

The ACS-AP-I control panel is sold separately with MRP code as loose items.

Available types and options are mentioned in ACS880 drive modules catalog and ACS880-04XT hardware manual.
ACS880-04 and ACS880-04XT

Ratings

\( U_g = 400 \text{ V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V (200 to 500 kW).}\)

<table>
<thead>
<tr>
<th>Nominal ratings</th>
<th>Light-overload use</th>
<th>Heavy-duty use</th>
<th>Noise level</th>
<th>Heat dissipation</th>
<th>Air flow</th>
<th>Type designation</th>
<th>Frame size</th>
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<td>( P_{n} ) kW</td>
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<td>725*</td>
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<td>71</td>
</tr>
</tbody>
</table>

\( U_g = 500 \text{ V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V (200 to 560 kW).}\)

<table>
<thead>
<tr>
<th>Nominal ratings</th>
<th>Light-overload use</th>
<th>Heavy-duty use</th>
<th>Noise level</th>
<th>Heat dissipation</th>
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<td>( P_{l} ) kW</td>
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The rating tables can be found in the product catalog. You can find it from a link at the end of this presentation.
The ACS880-04 is the narrowest drive in its power category. With a compact design, they save a lot of floor space. It is possible to mount it in a 400 mm wide cabinet. The depth is optimized for 600 mm deep cabinets. For example, you don’t need to remove the Rittal assembly plate in a 600 mm deep Rittal TS 8 cabinet. Input connection is at the top of the drive and motor connection on the lower section enabling compact cabinet design.
ACS880 drives have coated circuit boards as standard making them more resistant to corrosion and moisture.

Redundant cooling fans with long replace cycles increase reliability. It is possible to operate the unit at partial load, even if one of the fans has failed.

In addition, control boards are separated from the main air flow, increasing reliability.
The module can be mounted either in the bookshelf, flat or horizontal position, depending on available width and depth. In horizontal position it is important to guide the hot air to the right direction.

In addition, there are various cabling possibilities available for ACS880-04.
The control unit is possible to set up either inside or outside of the module. The standard configuration external control unit allows free location of the I/Os, gives easy access to the terminals, and offers a 2-meter cable between the module and the control unit.

If the control unit is inside the module, the control panel can be mounted in the drive. (Mounting the control unit inside could be considered for example, if the units are built into a container.)

Other features are for example, the firmware with drive application (IEC) programming possibility, several different I/O options, fieldbus and the main circuit options. These are main characteristics of the ACS880 product family.
ACS880-04 frames R10 and R11
Removable memory unit

- Easy and efficient
  - Easy and quick on-site drive replacement
  - Firmware update without special skills
  - Reduced downtime
- Protection of OEM know-how
- Easy update and upgrade of the SW
- Content
  - Firmware
  - Parameter setup
  - Application software
  - User interface configuration
  - Data encrypted

Removable unit enables moving the drive settings and drive firmware from one drive module to another during maintenance.
Safe torque off is a standard safety function in the ACS880. Additional safety functions can be commissioned using the optional safety functions module FSO.
ACS880-04 frames R10 and R11
Easy to maintain and service

- Easy to access components
  - Circuit boards in a separate section
  - Clear, modular structure
  - Heat sink can be cleaned by removing the handle
- Can be repaired in the cabinet (flat mounting)
- Pedestal with wheels for easy module handling
- No need to disconnect power cables from terminals (+H381 option)

ACS880-04 is simple to maintain and service. The components are easy to access, as the service ability has been taken into consideration in the design of the module. For example, the circuit boards are in a separate section. The module has a clear modular structure, cooling fans and capacitors are easy to change, and the power semiconductors are accessible. The heatsink can be cleaned with compressed air or a vacuum cleaner, when the removable handle has been taken off.

The flat mounted drive is also repairable when inside the cabinet.

From the service point of view, the pedestal makes it easy to pull the module out of the cabinet. An optional cabling unit makes it possible to pull the module out without touching the power cables.
This slide illustrates the different variants and options available for ACS880-04.
In addition to standard functionalities such as DTC and safe torque-off, the ACS880-04 has a wide range of options making it compatible with different users, processes and business requirements.
The complete offering is achieved by using the whole ACS880 product family. The ACS880-01 wall-mounted drives cover the lower power range down to less than a kilowatt. As a part of complete offering, ACS880-01 is available with a possibility to leave out the cabling box, front cover and control panel.

ACS880-04 and ACS880-04XT are used for powers up to 1,2 MW.

At higher power ranges, there is a possibility to use ACS880-04 packages created by using multidrive modules, i.e., paralleling inverters and multidrive input bridges, similar as in the ACS800 family today.
You can view and download the ACS880 drive modules catalog from the provided link.
**ACS880-04 features**

- Quiz - 5 questions
- Last Modified: touko 09, 2014 at 04:16 PM

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