Motorola ACE3600

I/O Expansion – Introduction

May 2009 - ACE3600 Enhancements
ACE3600 I/O Expansion

- Up to 13 Expansion Frames - max. 110 I/O modules per RTU.
- Each I/O Expansion Frame can be 3, 5, 7 or 8 I/O slots.
- Based on a dedicated 100 Mb/s Ethernet LAN for reliable communication between the Main Frame CPU and each I/O Expansion Frame.
- Expansion Frames can be installed up to 75 m distance from the main frame (via Eth. Switch).
- Expansion Frames can be cascaded to the main frame Power Supply (per main PS max. power limitations).
Main Frame

- Standard Power Supply Module
- CPU 3640 Module
- Eth switch(es)
- I/O Modules
- To-Expansion
- Power cable
- LAN Cables
- LAN Cables
Expansion Frame

Expansion Power Supply Module **

Expansion Module

I/O Modules*

Expansion Power Supply Module **

LAN Cable

* 3, 5, 7 or 8 slots options
** Can be replaced by other PS options
Expansion Module

- Automatically connects the I/O Expansion Frame to the Main Frame CPU
- Enable the main CPU to monitor and control the I/O modules on the Expansion Frame

Includes:
- Status and port activity LEDs
- Frame Number selector switch
- RS-232 port for local STS connection (interconnects to the main frame CPU)
- Dedicated Ethernet port for connection to the main frame CPU
- LEDs for indicating Frame Number
Expansion Power Supply Module

- Default PS* for I/O Expansion Frame
- Can be cascaded to Main PS
- Can be cascaded to the next Expansion Frame PS
- Includes Expansion PS Power Cable

* Can be replaced by the other PS options (excluding Low-tier PS)
**Expansion 8 Port Ethernet Switch Module**

- 100 Mb/s managed Ethernet Switch
- Located in standard I/O slot on the main frame.
- One Switch module enables connecting up to 7 I/O Expansion Frames to the main frame.
- Two Switch modules enable connecting up to 13 Expansion Frames to the main frame.
- Link, Speed and Activity LEDs per each port
Single Expansion Frame (up to 16 I/O modules)

Main Frame
Power Supply
CPU 3640
I/O Modules

Expansion Frame
Expansion Power Supply
Expansion Module
I/O Modules

Main Power
LAN cross cable*

Expansion power cable

* Up to 50 m
Multiple Expansion Frames
(up to 13 I/O Expansion Frames)

- Main Frame
- Exp. Frame #1
- Exp. Frame #2
- Expansion Frame #1
- Expansion Frame #2
- Expansion Frame #n

- Main Frame Power Supply
- CPU 3640
- LAN Switch

- LAN Cable
- Expansion Power Cable
- Exp. PS
- Exp. CPU
Distributed I/O Expansion Frames
(up to 13 I/O Expansion Frames)

- Main Frame
- Power Supply
- CPU 3640
- LAN Switch

- Expansion Frame #1
- Power Supply
- Exp. CPU

- Up to 75 m
- LAN Cables

- Expansion Frame #n
- Power
## Expansion combinations

<table>
<thead>
<tr>
<th>Number of I/O Slots</th>
<th>9-16</th>
<th>17-23</th>
<th>24-31</th>
<th>32-39</th>
<th>40-47</th>
<th>48-55</th>
<th>56-63</th>
<th>64-70</th>
<th>71-78</th>
<th>79-86</th>
<th>87-94</th>
<th>95-102</th>
<th>103-110</th>
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<tbody>
<tr>
<td>Main Frame F75XX</td>
<td>1</td>
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<tr>
<td>Exp. Frame F7510</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
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<tr>
<td>LAN Switch Module</td>
<td>0</td>
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<td>1</td>
<td>1</td>
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<td>1</td>
<td>2</td>
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# I/O Expansion – Ordering Information

*(available May ’09)*

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>F7510</td>
<td>ACE 3600 EXPANSION FRAME</td>
<td>Frame for I/O expansion. Includes expansion power supply and expansion module. One of the I/O slots option V103/5/7/8 must be ordered. Power supply can be replaced with one of the power supply options excluding 12V Low-tier. LAN cable is not provided.</td>
</tr>
<tr>
<td>VA00226</td>
<td>Add: ACE3600 Expansion LAN</td>
<td>Expansion Ethernet LAN switch module for I/O expansion. Occupies one I/O module slot. Provided with one LAN cable 60 cm.</td>
</tr>
<tr>
<td>V529</td>
<td>ADD: LAN Cable 60cm</td>
<td>LAN cable for connecting the expansion LAN switch to the CPU.</td>
</tr>
<tr>
<td>V648</td>
<td>Add: LAN Cable 2 Meter length</td>
<td>LAN cable for connecting expansion frame to expansion LAN switch.</td>
</tr>
<tr>
<td>V666</td>
<td>Add: LAN Cable 3 Meter length</td>
<td>LAN cable for connecting expansion frame to expansion LAN switch</td>
</tr>
<tr>
<td>V665</td>
<td>Add: LAN CROSS Cable</td>
<td>Crossed LAN cable for connecting a single expansion frame to the main CPU.</td>
</tr>
</tbody>
</table>