I/O Expansion card

- 4 Digital Inputs.
- 1 Digital Output
- 8 Relay Outputs

Drive Requirements

The EXP-IO-D5R8-ADV card (cod. S5L38) is designed for the following AC drives:

- Drive Type: ADV200 WA (all versions); Recommended Firmware Release: 1.0 or later.
- Drive Type: ADV200 (all versions); Firmware Release: 7.0 or later.

Description

The EXP-IO-D5R8-ADV is an optional expansion card for the ADV200 and ADV200 WA product family. This card enables the use of:

- 4 x Digital Inputs (NPN/PNP);
- 1 x programmable digital output (NPN/PNP);
- 8 x single contact relay outputs or 4 x double contact relay outputs.

About the Digital I/O:

- The NPN/PNP mode is manually configurable by means of a dedicated dip-switch;
- The output is programmable, the user can associate a specific function to control the 0 → 1 transition of the digital output. By way of example, in case of fan control it is possible to associate the “broken belt” function with a digital output, so that when the drive detects that the belt is broken, the 0 → 1 switch on the digital output is triggered. The full list of functions is provided in the ADV200 and ADV200 WA functional parameters handbook.

As regards relay outputs, the selection of single contact or double contact is software configurable by the user. This card should be used when the ADV200 WA drive type is required to drive a multi-pump system where each pump is individually controlled in an ON-OFF mode.

NOTE The drive can host one single EXP-IO-D5R8-ADV card.
## Connections

Details of card terminations are provided below:

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Name</th>
<th>Function</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C7</td>
<td>COM Digital inputs</td>
<td>Common reference for digital inputs</td>
<td>---</td>
</tr>
<tr>
<td>71</td>
<td>Digital input 1X</td>
<td>Digital input 1X</td>
<td>5mA@+24V (max +30V)</td>
</tr>
<tr>
<td>72</td>
<td>Digital input 2X</td>
<td>Digital input 2X</td>
<td>5mA@+24V (max +30V)</td>
</tr>
<tr>
<td>73</td>
<td>Digital input 3X</td>
<td>Digital input 3X</td>
<td>5mA@+24V (max +30V)</td>
</tr>
<tr>
<td>74</td>
<td>Digital input 4X</td>
<td>Digital input 4X</td>
<td>5mA@+24V (max +30V)</td>
</tr>
<tr>
<td>IS4</td>
<td>PS Digital Output</td>
<td>Digital Output Power Supply</td>
<td>---</td>
</tr>
<tr>
<td>81</td>
<td>Digital output</td>
<td>Digital output 1X</td>
<td>+24V (typ), 40mA (max)</td>
</tr>
<tr>
<td>RC34</td>
<td>COM relay 1 and 2</td>
<td>Common relay 1 and 2</td>
<td>---</td>
</tr>
<tr>
<td>R34</td>
<td>Contact NO relay 1</td>
<td>Normally Open Programmable output relay 1</td>
<td>250Vac – 30Vdc – 2A</td>
</tr>
<tr>
<td>R44</td>
<td>Contact NO relay 2</td>
<td>Normally Open Programmable output relay 2</td>
<td>250Vac – 30Vdc – 2A</td>
</tr>
<tr>
<td>RC56</td>
<td>COM relay 3 and 4</td>
<td>Common relay 3 and 4</td>
<td>---</td>
</tr>
<tr>
<td>R54</td>
<td>Contact NO relay 3</td>
<td>Normally Open Programmable output relay 3</td>
<td>250Vac – 30Vdc – 2A</td>
</tr>
<tr>
<td>R64</td>
<td>Contact NO relay 4</td>
<td>Normally Open Programmable output relay 4</td>
<td>250Vac – 30Vdc – 2A</td>
</tr>
<tr>
<td>RC78</td>
<td>COM relay 5 and 6</td>
<td>Common relay 5 and 6</td>
<td>---</td>
</tr>
<tr>
<td>R74</td>
<td>Contact NO relay 5</td>
<td>Normally Open Programmable output relay 5</td>
<td>250Vac – 30Vdc – 2A</td>
</tr>
<tr>
<td>R89</td>
<td>Contact NO relay 6</td>
<td>Normally Open Programmable output relay 6</td>
<td>250Vac – 30Vdc – 2A</td>
</tr>
<tr>
<td>RC90</td>
<td>COM relay 7 and 8</td>
<td>Common relay 7 and 8</td>
<td>---</td>
</tr>
<tr>
<td>R94</td>
<td>Contact NO relay 7</td>
<td>Normally Open Programmable output relay 7</td>
<td>250Vac – 30Vdc – 2A</td>
</tr>
<tr>
<td>R04</td>
<td>Contact NO relay 8</td>
<td>Normally Open Programmable output relay 8</td>
<td>250Vac – 30Vdc – 2A</td>
</tr>
</tbody>
</table>
Functional Block Diagram

71
72
73
74
(0V)
C7
81
IS4
(+24V)

Digital Input 1
Digital Input 2
Digital Input 3
Digital Input 4

Relay 1
Relay 2
Relay 3
Relay 4
Relay 5
Relay 6
Relay 7
Relay 8

NO
NO
NO
NO
NO
NO
NO

R54
R64
RC56
RC78
R74
R89
R94
R04

RC34
RC90
5 Installation

To install the card refer to the “Installation of optional cards” chapter in the “ADV200 WA and ADV200 Quick Start” installation handbook. This chapter describes the procedure for installing the I/O card. During installation bear in mind the following:

- Do not connect an external voltage or current generator to the ports as specified in the connection table;
- The analog I/O terminations have no mutual galvanic insulation. Galvanic insulation is only available between the terminations and the control card.

6 Commissioning

Once the card is installed the commissioning phase can start. Use the keypad to go to menu 02, which will show that the card is properly recognized and ready to operate:

<table>
<thead>
<tr>
<th>Slot 1 card type</th>
<th>Value:</th>
<th>6401</th>
</tr>
</thead>
<tbody>
<tr>
<td>I/O 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slot 2 card type</td>
<td>Value:</td>
<td>6401</td>
</tr>
<tr>
<td>I/O 7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7 Ordering Information

When ordering the EXP-IO-D5R8-ADV card please quote commercial code: S5L38.