True Three Phase Solid State Contactor
for use with Short Wave Infrared or Resistive Loads

Specification Sheet

A range of three phase, three leg solid state contactors for use with short wave infrared (SWIR) and Low Temperature Coefficient resistive loads.

Ratings
The current ratings of the 7300S cover the range from 16 to 160 amps. The voltage rating can go up to a maximum rating of 500 volts.

Inputs
These units, with integral heat sinks, are driven by either DC or AC Logic signals depending on the order code. Also an analogue 4-20mA input can be specified which gives a linear time proportional output.

Fusing
In all cases the output is zero voltage switching. High speed fuses are mounted external to the unit for 100 amps and below, internal above 100 amps. They can be ordered as part of the 7300S order code. Spare fuses or complete fuse and fuseholder assemblies can also be ordered separately.

Alarm
The 7300S has an optional thyristor short circuit and total load failure alarm.

An overtemperature shut down is provided for fan cooled units (over 100 amps). An optional overtemperature alarm is also available.

Diagnostic Load Failure detection is an option which alarms on the loss of one or more parallel heating elements (resistive or SWIR). The sensitivity is maximum one out of four. It is auto-setting via a front panel push button.

International approvals
CE (EN60947-4-3)

www.eurotherm.co.uk
7300s

Example of 7300S layout

**Signal connections**

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Block No.</th>
<th>Label</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDC</td>
<td>11</td>
<td>0V</td>
<td>Logic</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>LD</td>
<td>4.5 - 32Vdc</td>
</tr>
<tr>
<td>HAC</td>
<td>11</td>
<td>A1</td>
<td>Logic</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>A2</td>
<td>85-253Vac</td>
</tr>
<tr>
<td>ATP</td>
<td>11</td>
<td>0V</td>
<td>Analogue</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>R1</td>
<td>4 - 20mA</td>
</tr>
<tr>
<td>ALR</td>
<td>71</td>
<td>1a</td>
<td>DLF</td>
</tr>
<tr>
<td></td>
<td>72</td>
<td>1b</td>
<td>DLF Alarm relay</td>
</tr>
<tr>
<td></td>
<td>73</td>
<td>1a</td>
<td>DLF or GRF</td>
</tr>
<tr>
<td></td>
<td>74</td>
<td>1b</td>
<td>NO Alarm Relay</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Block No.</th>
<th>Label</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fan</td>
<td>16</td>
<td>230</td>
<td>Fan supply</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>115</td>
<td>230Vac or</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>N</td>
<td>115Vac</td>
</tr>
<tr>
<td>Ext</td>
<td>21</td>
<td>L2</td>
<td>2nd Phase or</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>-</td>
<td>N or Reference</td>
</tr>
</tbody>
</table>
**POWER**
Current 16, 25, 40, 63, 80, 100, 125 and 160 amps three phase at 45 Deg. C
Voltage 200 to 500VAC
Frequency 47 to 63 Hz

**AUXILIARY SUPPLY**
No Auxiliary supply is required as the 7300S derives its own internal, synchronised supply

**FAN SUPPLY**
None required up to 100 amps (natural convection). Above 100amps; 115V or 230V (10VA)

**LOAD**
Three Phase industrial load:
Use category AC-51 Resistive load with low temperature coefficient
AC-55b Short wave infrared elements (for units ≤100A)
Load configuration Star with neutral (4S)
Star without neutral (3S)
Closed delta (3D)
Open delta (6D)

**FUSES**
High speed fuses are external for thyristor ratings up to and including 100 amps, internal above 100amps
The fuses can be called up as part of the ordering code (High speed fuses not recommended for SWIR loads)

**INPUT**
DC Logic (LDC) 4.5 to 32 VDC (ON > 4.5V, OFF < 2V) or (ON > 9mA, OFF < 0.5mA) 32VDC maximum.
AC Logic (HAC) 100 to 230VAC (ON > 85VAC, OFF < 10VAC) 253VAC maximum. Impedance 7K at 50 Hz
DC analogue (ATP) 4-20mA (10VDC max.)

**FIRING MODE**
For Logic inputs the firing is ON/OFF with zero voltage switching.
For analogue 4-20mA input the firing mode is Fast Cycle firing. The cycle time at 50% demand is 0.6 seconds (0.3 seconds ON and 0.3 seconds OFF). Output linearity better than + or - 2%. Open loop control (no supply voltage compensation)

**INDICATION**
Green LED for supply ‘ON’. Green LED for Heat ‘ON’. Plus a range of diagnostic indicators

**ALARMS (OPTION)**
Diagnostic alarms (DLF) Serious Alarms: Unit overtemperature, thyristor short circuit and load open circuit signalled by set LED and relay contact
Partial load failure: Detects the failure of at least 1 element out of 4 in 3S, 4S, 6D configuration and 1 element out of 3 in 3D configuration signalled by DLF LED and relay contact

**ENVIRONMENT**
Temperature Operating: 0 to 45 Deg. C. (2,000 metres maximum altitude). Storage: -10 to 70 Deg. C
Humidity 5 to 95% Non condensing, non streaming
Pollution Pollution degree 2
Enclosure protection IP20 without additional protection
Cooling Natural convection up to 100 amps, fan cooled >100amps
Heat dissipation 1.3W per amp, per phase (≤2W if internal fuse)
Over-voltage Installation category II

**INSTALLATION**
Mounting Rating from 16 to 40A: Two symmetric DIN rail ENS0022 or bulkhead mounting (4 x M4 screws)
Rating from 63 to 100A: Bulkhead mounting (4 x M4 screws)
Rating from 125 to 160A: Bulkhead mounting (4 x M6 screws)
Allow a minimum of 10mm between units. Units must be mounted with fins running vertically
Max. cable size 16 and 25 amp: 6mm². 40 and 63 amp: 16mm². 80 and 100 amp: 35mm² 125 and 160A: 120mm²

**PRODUCT STANDARD**
The 7300S products comply with the terms of product standard EN 60947-4-3. Contactors and motor-starters- AC semiconductor controllers and contactors for non-motor loads

**CE LABELLING**
7300S units installed and used according to user instructions and comply with the requirements of the European Low Voltage Directive 73/23EEC (93/68 EEC) and product standards. This enables the installation in which the products are used to be declared compliant with the EMC directive, as regards the 7300S units.

**WARRANTY**
2 years

**PHYSICAL DATA**
<table>
<thead>
<tr>
<th>Rating (A)</th>
<th>H(mm)</th>
<th>W(mm)</th>
<th>D(mm)</th>
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<tbody>
<tr>
<td></td>
<td>Basic</td>
<td>GRF</td>
<td>DLF</td>
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<tr>
<td>16-63</td>
<td>220</td>
<td>96</td>
<td>164</td>
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<tr>
<td>80-100</td>
<td>305</td>
<td>144</td>
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<tr>
<td>125-200</td>
<td>498</td>
<td>144</td>
<td>295</td>
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Additional information and documentation available on www.eurotherm.co.uk
## ORDERING CODE

<table>
<thead>
<tr>
<th>Manual Language</th>
<th>Load Type</th>
<th>Load Configuration</th>
<th>Alarm Relay Contact</th>
<th>Options</th>
<th>Part No.</th>
<th>Issue 1</th>
<th>Specification sheet Printed in England 11.05</th>
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<td>NO</td>
<td>Options</td>
<td>HA029162ENG</td>
<td>7300S</td>
<td>11.05</td>
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### FUSE AND FUSEHOLDER (Triple unit)

<table>
<thead>
<tr>
<th>Current rating amps</th>
<th>Fuse number</th>
<th>Fuse and holder assembly</th>
<th>Fuse and Holder with Microswitch</th>
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<tbody>
<tr>
<td>16</td>
<td>FU3038/16A/00</td>
<td>MSFU3451/16A/00</td>
<td></td>
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<tr>
<td>25</td>
<td>FU3038/25A/00</td>
<td>MSFU3451/25A/00</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>FU3451/40A/00</td>
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<tr>
<td>63</td>
<td>FU3258/63A/00</td>
<td>MSFU3258/63A/00</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>FU3258/80A/00</td>
<td>MSFU3258/80A/00</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>FU3760/100A/00</td>
<td>MSFU3760/100A/00</td>
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</tbody>
</table>

### SPARE FUSE (1 per unit)

<table>
<thead>
<tr>
<th>Current rating amps</th>
<th>Fuse number</th>
<th>Fuse Trip with indicator</th>
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<td>25</td>
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<td>63</td>
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<td>160</td>
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