

7300S

MODEL



True Three Phase Solid State Contactor

for use with Short Wave Infrared or
Resistive Loads

Specification Sheet

Ideal for :

- SWIR heating
- Injection moulding
- Thermo-forming
- Multi-zone heating
- Autoclaves
- Ovens

Features :

- Current range; from 16 to 160 amps at 45°C
- Voltage up 500V
- Inputs: Logic (AC or DC) or Analogue 4-20mA which gives time proportional output
- Suitable for SWIR or resistive loads
- Overtemperature shutdown for fan cooled units (over 100 amps)
- Options include:
Thyristor short circuit alarm
Overtemperature alarm
Diagnostic load failure detection

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 160amps. 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.

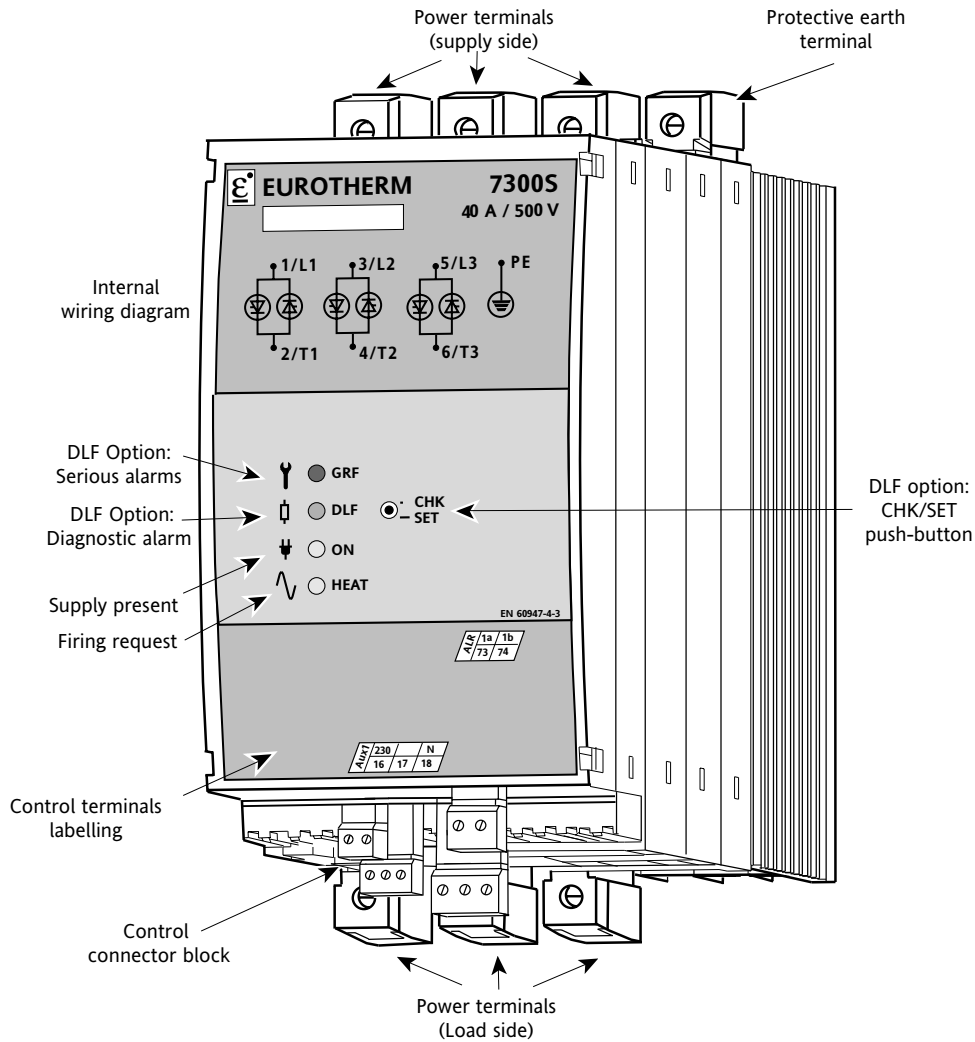
An overtemperature shut down is provided for fan cooled units (over 100 amps). An optional overtemperature alarm is also available.

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)

7300s



Example of 7300S layout

Signal connections

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

Terminal Block	Terminal		
	No.	Label	Purpose
Fan	16	230	Fan supply
	17	115	230Vac or
	18	N	115Vac
Ext	21	L2	2nd Phase or
	22	-	N or Reference

TECHNICAL SPECIFICATION

Additional information and documentation available on www.eurotherm.co.uk

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 4S, 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 EN50022 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: 6mm ² . 40 and 63 amp: 16mm ² . 80 and 100 amp: 35mm ² 125 and 160A: 120mm ²																											
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 border="1"> <thead> <tr> <th rowspan="2">Rating (A)</th> <th rowspan="2">H(mm)</th> <th rowspan="2">W(mm)</th> <th colspan="3">D(mm)</th> </tr> <tr> <th>Basic</th> <th>GRF</th> <th>DLF</th> </tr> </thead> <tbody> <tr> <td>16-63</td> <td>220</td> <td>96</td> <td>164</td> <td>189</td> <td>214</td> </tr> <tr> <td>80-100</td> <td>305</td> <td>144</td> <td>295</td> <td>295</td> <td>372</td> </tr> <tr> <td>125-200</td> <td>498</td> <td>144</td> <td>295</td> <td>295</td> <td>372</td> </tr> </tbody> </table>	Rating (A)	H(mm)	W(mm)	D(mm)			Basic	GRF	DLF	16-63	220	96	164	189	214	80-100	305	144	295	295	372	125-200	498	144	295	295	372
Rating (A)	H(mm)				W(mm)	D(mm)																						
		Basic	GRF	DLF																								
16-63	220	96	164	189	214																							
80-100	305	144	295	295	372																							
125-200	498	144	295	295	372																							

ORDERING CODE

7300S	1	2	3	4	5	6	7	8
9	10	11	12	13	14	15		
			NONE	XXXX		NONE		

1 Current	2 Voltage	4 Load Configuration	6 Input	7 Manual Language
500V 16A 16 amps 25A 25 amps 40A 40 amps 63A 63 amps 80A 80 amps 100A 100 amps 125A 125 amps 160A 160 amps	200V 200 volts 230V 230 volts 277V 277 volts 400V 400 volts 460V 460 volts 480V 480 volts 500V 500 volts	3S Star without neutral 4S Star with neutral 3D Closed delta 6D Open delta	On/off firing LDC DC logic signal 45Vdc to 32Vdc AC logic signal HAC 85Vac to 253Vac Burst firing ATP Analogue DC signal 4mA to 20mA	ENG English FRA French GER German
3 Fan	5 Fuse	8 Options		
XXXX ≤100A : no fan ≥125A : fan 115V 115v supply 230V 230V	FUSE Fuse without microswitch MSFU Fuse with microswitch NONE No fuse	NONE No options YES End of code Selection of options		

Options (if Options 'YES')

9 Alarm option	10 Load Type	11 Alarm Relay Contact	12	14 Certification option
DLF Partial load failure + Serious alarms NONE No alarms	For DLF option: SWIR Short wave infrared elements LTCL Low temperature coefficient load XXXX Without DLF option	DLF option: NC Closed on alarm NO Open on alarm XX Without alarm option	NONE	NONE No certificate of conformity CFMC Certificate of conformity
			13	15
			XXXX	NONE

FUSE AND FUSEHOLDER (Triple unit)

Current rating amps	Fuse and holder assembly	Fuse and Holder with Microswitch
16	FU3038/16A/00	MSFU3451/16A/00
25	FU3038/25A/00	MSFU3451/25A/00
40	FU3451/40A/00	MSFU3451/40A/00
63	FU3258/63A/00	MSFU3258/63A/00
80	FU3258/80A/00	MSFU3258/80A/00
100	FU3760/100A/00	MSFU3760/100A/00

SPARE FUSE (3 per unit)

Current rating amps	Fuse number	Fuse Trip with Indicator
16	CH260024	CS176513U020
25	CH260034	CS176513U032
40	CH330054	CS176513U050
63	CS173087U080	CS176461U080
80	CS173087U080	CS176461U100
100	CS173246U125	CS173246U125
125		CS176762U160
160		CS176762U250

EUROTHERM INTERNATIONAL SALES AND SERVICE

AUSTRALIA Sydney
Eurotherm Pty. Ltd.
Telephone (+61 2) 9838 0099
E-mail info@eurotherm.com.au

AUSTRIA Vienna
Eurotherm GmbH
Telephone (+43 1) 7987601
E-mail eurotherm@eurotherm.at

BELGIUM & LUXEMBURG Huy
Eurotherm S.A./N.V.
Telephone (+32) 85 274080
E-mail sales@eurotherm-belgium.be

BRAZIL Campinas-SP
Eurotherm Ltda.
Telephone (+5519) 3707 5333
E-mail eurothermltda@eurothermltda.com.br

DENMARK Copenhagen
Eurotherm Danmark A/S
Telephone (+45 70) 234670
E-mail info@eurotherm.se

FINLAND Abo
Eurotherm Finland
Telephone (+358) 22506030

FRANCE Lyon
Eurotherm Automation SA
Telephone (+33 478) 664500
E-mail ea@automation.eurotherm.co.uk

GERMANY Limburg
Eurotherm Deutschland GmbH
Telephone (+49 6431) 2980
E-mail info@regler.eurotherm.co.uk

HONG KONG & CHINA
Eurotherm Limited Aberdeen
Telephone (+85 2) 28733826
E-mail eurotherm@eurotherm.com.hk

INDIA Chennai
Eurotherm India Limited
Telephone (+9144) 24961196
E-mail sales@eurothermdel.com

IRELAND Dublin
Eurotherm Ireland Limited
Telephone (+353 1) 469180
E-mail info@eurotherm.ie

ITALY Como
Eurotherm S.r.l
Telephone (+39 31) 975111
Fax (+39 31) 977512
E-mail info@eurotherm.it

KOREA Seoul
Eurotherm Korea Limited
Telephone (+82 31) 2738507
E-mail help@eurotherm.co.kr

NETHERLANDS Alphen a/d Ryn
Eurotherm B.V.
Telephone (+31 172) 411752
E-mail sales@eurotherm.nl

NORWAY Oslo
Eurotherm A/S
Telephone Oslo (+47 67) 592170
E-mail info@eurotherm.se

SPAIN Madrid
Eurotherm España SA
Telephone (+34 91) 6616001
E-mail ventas@iberica.eurotherm.co.uk

SWEDEN Malmo
Eurotherm AB
Telephone (+46 40) 384500
E-mail info@eurotherm.se

SWITZERLAND Freienbach
Eurotherm Produkte (Schweiz) AG
Telephone (+41 55) 4154400
E-mail epsag@eurotherm.ch

UNITED KINGDOM Worthing
Eurotherm Limited
Telephone (+44 1903) 268500
E-mail info@eurotherm.co.uk
Web www.eurotherm.co.uk

U.S.A Leesburg VA
Eurotherm Inc.
Telephone (+1 703) 443 0000
E-mail info@eurotherm.com
Web www.eurotherm.com

ED43

© Copyright Eurotherm Limited 2005

Invensys, Eurotherm, the Eurotherm logo and Wonderware are trademarks of Invensys plc, its subsidiaries and affiliates. All other brands may be trademarks of their respective owners.

All rights are strictly reserved. No part of this document may be reproduced, modified, or transmitted in any form by any means, nor may it be stored in a retrieval system other than for the purpose to act as an aid in operating the equipment to which the document relates, without the prior written permission of Eurotherm limited.

Eurotherm Limited pursues a policy of continuous development and product improvement. The specifications in this document may therefore be changed without notice.

The information in this document is given in good faith, but is intended for guidance only. Eurotherm Limited will accept no responsibility for any losses arising from errors in this document.

