

7100S

MODEL



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

Features:

- **Current range; from 16 to 630 amps at 45°C**
- **Voltage up 690V**
- **Inputs: Logic (AC or DC) or Analogue 4-20mA which gives time proportional output**
- **Intelligent half cycle firing available when driven by a Eurotherm REMIO interface unit**
- **Suitable for SWIR or resistive loads**
- **Overtemperature alarm for fan cooled units (over 100 amps)**
- **Options include thyristor short circuit alarm, Diagnostic Load Fault detection and digital communications**

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

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.

The DC Logic input can be supplied by a Eurotherm REMIO interface unit which can give intelligent half cycle firing to reduce flicker in SWIR lamps.

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 7100S order code. Spare fuses or complete fuse and fuseholder assemblies can also be ordered separately.

The 7100S has an optional thyristor short circuit and total load failure alarm.

An overtemperature alarm will shut down a fan cooled unit if it overheats (units over 100 amps).

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 one out of six. It is auto-setting by command from a push button.

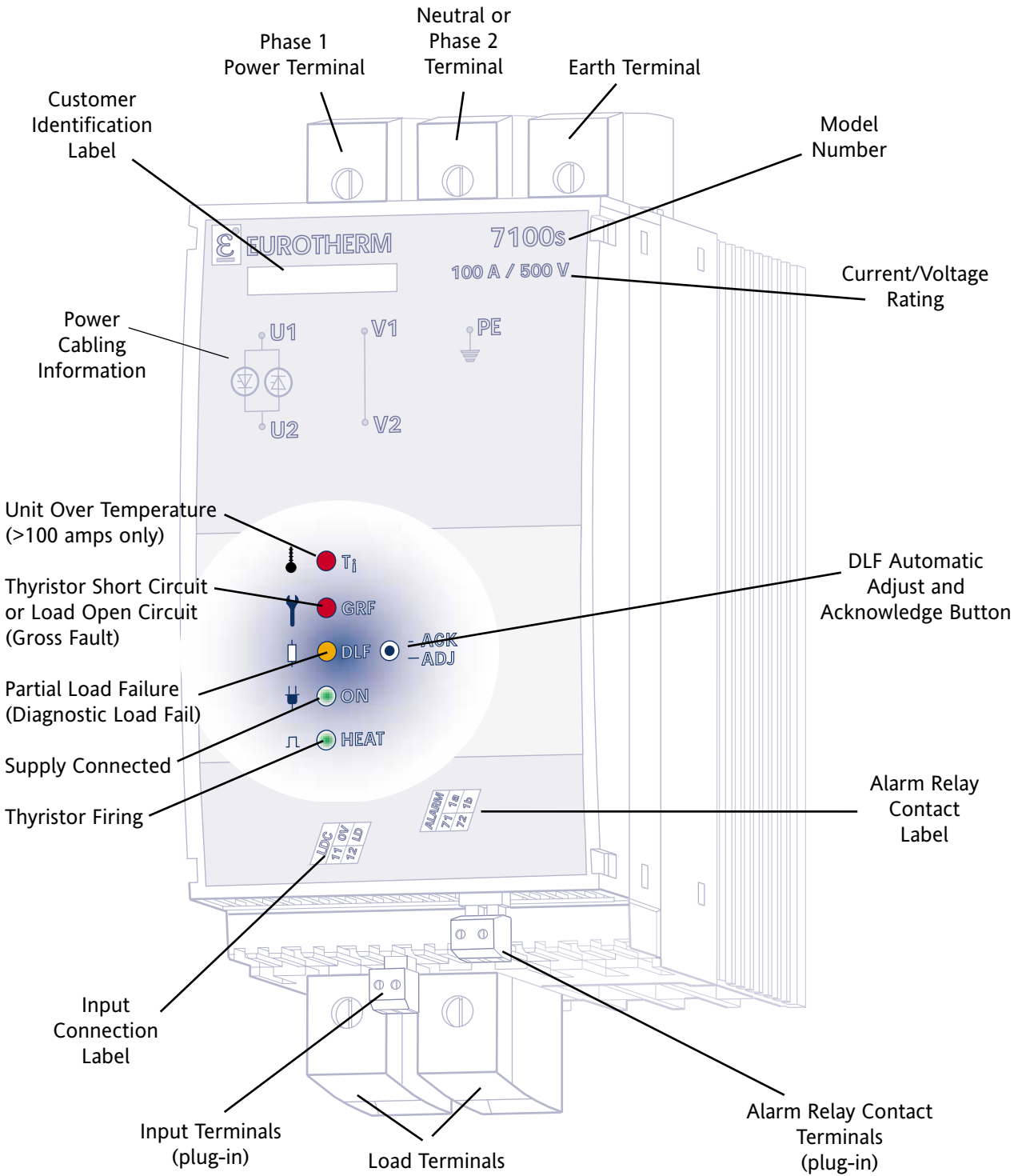
The Modbus communications option allows digital control of the unit and interrogation of alarm and firing status.



EUROTHERM

CONTROLS
PROCESS AUTOMATION
RECORDERS

7100s



Technical specification (Phased introduction - Consult Eurotherm for availability)

ELECTRICAL RATINGS	
Current	16, 25, 40, 63, 80, 100 amps single phase at 45 Deg. C (will be extended up to 630 amps)
Voltage	127, 230, 277 and 500VAC (690VAC available later)
Frequency	47 to 63 Hz
AUXILIARY SUPPLY	No Auxiliary supply is required as the 7100S derives its own internal, synchronised supply
FAN SUPPLY	None required up to 100 amps (natural convection). Above 100amps; 115V or 230V (10VA)
FUSES	High speed fuses are external for thyristor ratings up to and including 100 amps - will be internal above 100amps The fuses can be called up as part of the ordering code
LOAD	Low Temperature Coefficient resistive or short wave infrared (SWIR), single phase loads. The load can be switched Line to Neutral or Line to Line - select appropriate voltage
INPUT	DC Logic (LDC) 4.5 to 32 VDC (ON > 4.5V, OFF < 2V) or (ON > 9mA, OFF < 0.5mA) 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. Intelligent half cycle firing available if input is from a Eurotherm REMIO interface unit. 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 + or - 2%. Open loop control (no supply voltage compensation)
INDICATION	Green LED for supply 'ON'. Green LED for Heat 'ON'. Future development will give a full range of diagnostic indicators
ALARMS	Available later
COMMUNICATIONS	Optional Modbus communications will be available, running at 96kbaud or 192kb allow the units to be controlled and monitored by a supervisory system
ENVIRONMENT	
Humidity	5 to 95% Non condensing, non streaming
Pollution	Pollution degree 2
Enclosure protection.	IP20 without additional protection
Temperature	Operating: 0 to 45 Deg. C. (2,000 metres maximum altitude). Storage: -10 to 70 Deg. C
Cooling	Natural convection up to 100 amps, fan cooled >100amps
Heat dissipation	Allow 2 watts per amp to include heat dissipation from fuse (if used)
Safety standards	Installation category 3 (voltage transients must not exceed 4.0 kV)
INSTALLATION	
Mounting.	DIN Rail or panel mounting (two DIN rails for 80 and 100 amp outputs) 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
CE MARKING	
7100S units installed and used according to user instructions comply with the requirements of the European Low Voltage Directive73/23EEC (93/68 EEC) and product standard EN60947-3. This enables the installation in which the products are used to be declared compliant with the EMC directive, as regards the 7100S units.	

Dimensions (mm)

16A:	156(H) x 35(W) x 110(D)
25A:	156 x 35 x 140
40A:	156 x 52.5 x 140
63A:	156 x 70 x 160
80-100A:	226 x 96 x 164

Wiring

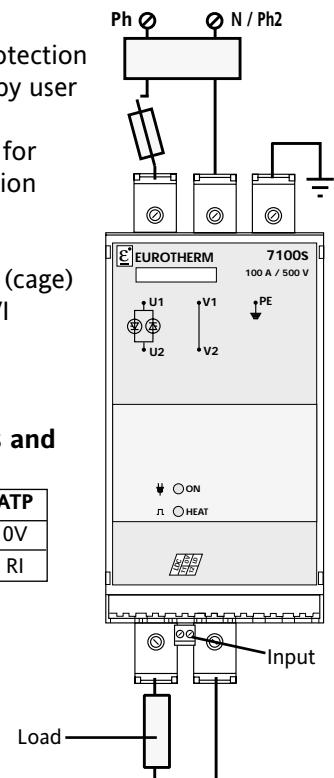
Isolation and protection circuit installed by user

High speed fuse for thyristor protection

Power terminals (cage)
Supply: U1 and V1
Load: U2 and V2
Earth: PE

Input terminals and label

No	LDC	HAC	ATP
11	0V	A1	0V
12	LD	A2	RI



Ordering code (Phased introduction - Consult Eurotherm for availability)

7100S	1	2	3	4	5	6	7	8
	9	10	11	12	13	14		

1 Current 16A 16 amps 25A 25 amps 40A 40 amps 63A 63 amps 80A 80 amps 100A 100 amps 125A* 125 amps 150A* 150 amps 200A* 200 amps 250A* 250 amps 315A* 315 amps 400A* 400 amps 500A* 500 amps 630A* 630 amps	3 Filter FILT 16 to 40A (std) 63 to 100A: with filter NONE without filter 4 Fan Supply XXXX 16A to 100A (no fan) ≥125A 115V* 115V Fan supply 230V* 230V Fan supply	6 Input LDC DC logic HAC AC logic ATP DC 4-20mA (fast cycle firing)	9 Alarm option* GRF Thyristor short circuit or load open circuit DLF Partial load failure + GRF NONE No alarms 10 Load type* For alarm option DLF: LTCL Resistive SWIR Short Wave Infrared XXXX If 'DLF' not specified	11 Alarm Relay Contacts* For alarm option GRF or DLF: NO Open in alarm NC Closed in alarm XX If alarm choice 'none'	13 Baud Rate* 9K6 96 kbaud 19K2 192 kbaud XXX No comms
2 Voltage 127V 127 volts 230V 230 volts 277V 277 volts 500V 500 volts 690V* 690 volts	5 Fuse FUSE Fuse without microswitch MSFU Fuse with microswitch NONE No fuse (or SWIR)	7 Manual Language ENG English FRA French GER German	12 Communications option* MOP Modbus protocol NONE No comms	14 Certificate option NONE No certificate of conformity CFMC Certificate of conformity	
		8 Options NONE (end of code) YES (specify further code)			

* Not yet available

FUSES - External up to and including 100 amps

Current rating amps	Fuse rating amps	Fuse number	Fuse and holder assembly
16	20	CH260024	FU1038/16A/00
25	32	CH260034	FU1038/25A/00
40	50	CH330054	FU1451/40A/00
63	80	CS173087U080	FU2258/63A/00
80	100	CS173087U100	FU2258/80A/00
100	125	CS173246U125	FU2760/100A/00

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