ENGINEERING DATA SHEET

SERIES WE-X2YN

SMART, PLUG-IN CONTACTOR
3 PST/NO, 175 AMP

Electrical Load Control Unit (ELCU)
Balanced-Force design

Designed to the performance standards of	**MIL-PRF-6106**
Contact arrangement	**3 PST/NO**

PRINCIPLE TECHNICAL CHARACTERISTICS

Contacts rated at	**115/200, 400Hz, 3Ø**
Weight	**4.37lbs max**
Dimensions	**4.43 in. x 4.43 in. x 5.00 in.**

Special units available upon request, including models with auxiliary contacts.

CONTACT ELECTRICAL CHARACTERISTICS

Contact rating per pole and load type	**Load current in Amps**
	115/200 Vac, 400 Hz, 3Ø
Resistive	175
Inductive	175
Motor	110

Esterline Power Systems

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AMERICAS
6900 Orangethorpe Ave.
P.O. Box 5032
Buena Park, CA 90622
Tel: (01) 714-736-7599
Fax: (01) 714-670-1145

EUROPE
2 Rue Goethe
57430 Sarralbe
France
Tel: (33) 3 87 97 31 01
Fax: (33) 3 87 97 96 86

ASIA
Units 602-603 6/F Lakeside 1
No.8 Science Park West Avenue
Phase Two, Hong Kong Science Park
Pak Shek Kok, Tai Po, N.T.
Hong Kong
Tel: (852) 2 191 3830
Fax: (852) 2 389 5803

Nominal operating voltage	28 Vdc
Pick-up voltage	15 Vdc
Drop-out voltage	1.5 to 9 Vdc
Maximum pick-up time	25 ms
Maximum drop-out time	15 ms
Maximum pick-up current	4 Amp for 1 sec, max
Maximum hold current	.5 Amp

GENERAL CHARACTERISTICS

Contact Data	Main Contacts
-Configuration	3PST NO
-Supply voltage	115/200 Vac
-Continuous current	175 Amp at .75PF
-Rupture current	1600 Amp
-Overload	800 Amp
-Maximum contact bounce	3 ms
-Simultaneous operation	3 ms
-Short circuit current	2200 Amp RMS, 4 times
Electrical life	
-At ambient pressure	25,000 operations
-At 45,000 ft	25,000 operations
Mechanical life	100,000 operations
Insulation resistance	≥ 40 M Ω at 500 Vrms
Dielectric Strength	
-All circuits to ground	1500 Vrms
-Circuit to circuit to ground and aux contacts	1250 Vrms
Altitude	45,000 ft

NUMBERING SYSTEM

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                                        WE-X2YN - XXX
Basic series designation_____________________|    |
Customer configuration_____________________________|
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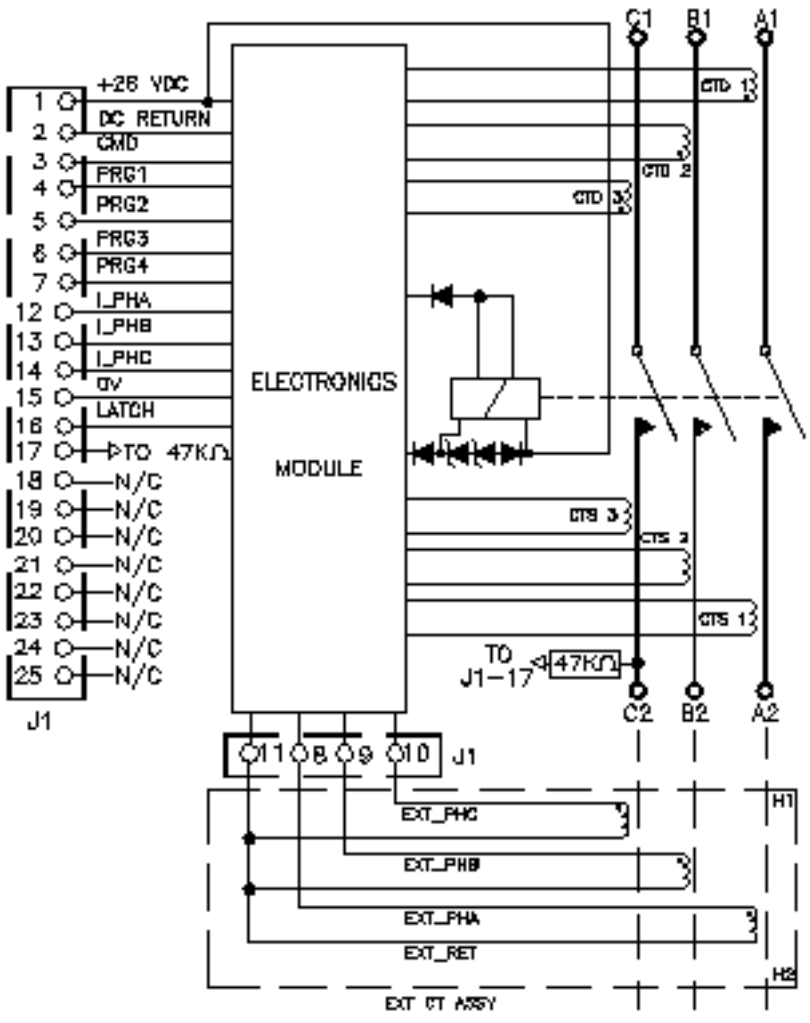
Position	Pin	Function
1	+28 Vdc	Power supply for the device
2	DC return	28 Vdc power supply return
3	CMD	Control signal for contactor. [1]
4 thru 7	PRG1, PRG 2, PRG 3, PRG 4	Trip programming pins
8 thru 10	EXT_PHA, EXT_PHB, EXT_PHC	Current input pins [2]
11	EXT_RET	Current input reference
12 thru 14	I_PHA, I_PHB, I_PHC	Current status pins
15	0V	Ground reference
16 thru 17	Latch status	Signal line reporting the load current condition
18 thru 25	N/C	Contactor status

[1] A low-level signal causes contactor to close
[2] The current level is used to compare with the internal current measured at the source side of each phase

TYPICAL SCHEMATIC



175 A ELCU
ELECTRICAL SCHEMATIC

WE-X2YN-014

POWER ON/RESET

Normal conditions	18 to 32 Vdc
Operating current at 28 Vdc	120 mAmp max, contactor "open"
	620 mAmp max, contactor "closed"

CMD

High level	Min 7 to 10.5 Vdc
Low level	Min 3 to 7.4 Vdc
Input histeresis	1.3 to 4.3 Vdc
Pull-up resistor	10 K Ω+/- 1%
Input capacitance	<123nF
Input current	<200 µAmp at 28 Vdc <200 mAmp, max, at 0 Vdc

TRIP LEVEL PROGRAMMABILITY

Current status	Phase A, B, C
Frequency PWM output	666.7 Hz, +/- 3%
Low level duty cycle	25% to 40%
High level duty cycle	60% to 75%
Signal amplitude	7.5 to 16.5 Vdc
Rise Time	20 to 100: sec
Output resistance	4 K Ω nominal

LATCH STATUS

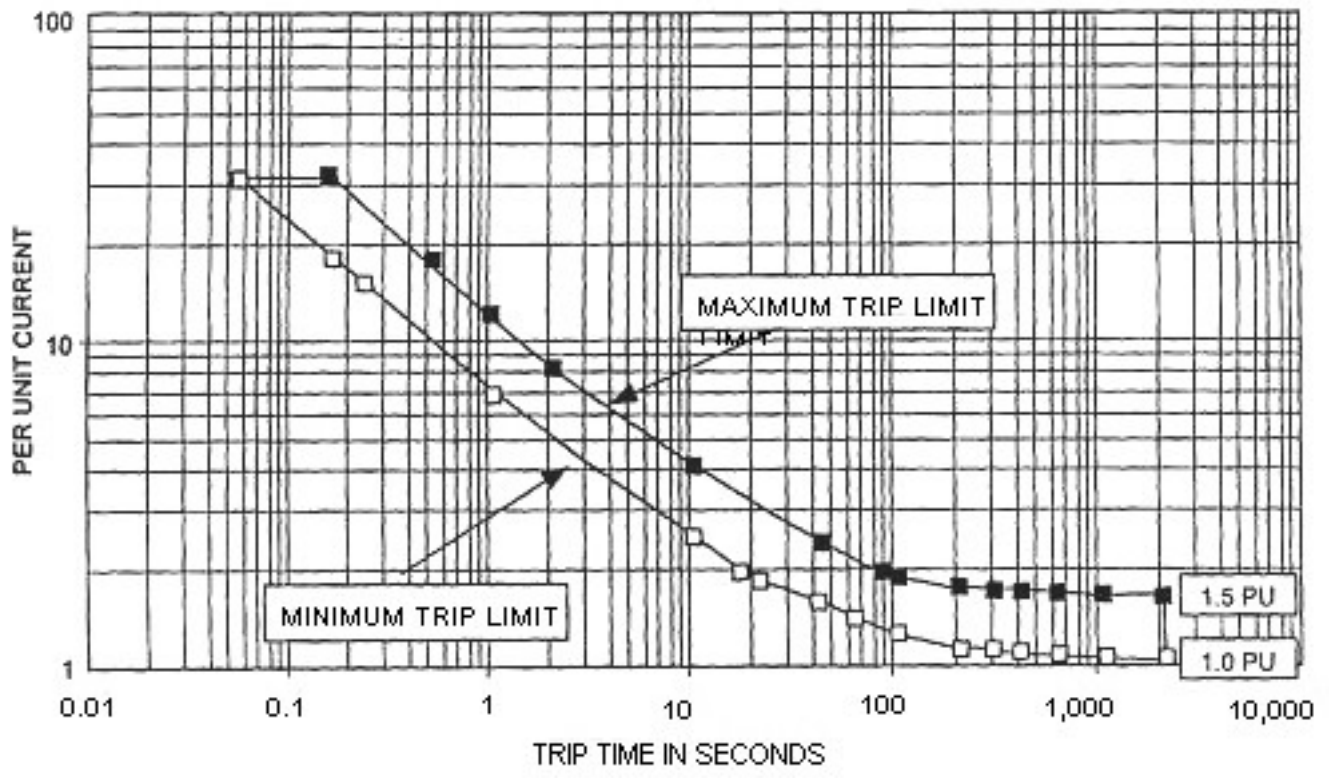
High Level	>100 K Ω to 28 Vdc
Low Level	<100 Ω to DC return

CONTACTOR STATUS

Contactor closed	115/200 Vac, 400 Hz, typical via 47 K Ω resistor
Contactor open	Open circuit

CONTROL LOGIC SPECIFICATION

Anti-cycling hard fault protection	Contactor control logic will initiate a trip within 25ms if 28 VDC supply drops below 10 Vdc while load current is equal to or above 270 Amp +/- 6%. The contactor will remain in the open state until a reset command sequence is provided.
Over current trip	The unit can be configured for 60, 90, 120, 145, 174 Amp nominal rating. Contactor control logic will initiate a trip if load current exceed the I^2t trip curve of Figure 1. The contactor will remain in the open state until a reset command sequence is provided.
Differential protection trip	The contactor control logic will initiate a trip within 25 ms if the differential current of any supply and load side measurement exceeds 20 +/- 10 Amp. The contactor will remain open until a reset command sequence is provided
Reset command	The contactor clears, from the latched state, by removing 28 Vdc power (open circuit) for a period greater than or equal to 250 ms. The contactor resets by removing CMD input (open circuit) for a period greater than or equal to 5 ms.



CONFIGURATION STYLE