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Project 74ME2421

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REPORT

on

***COMPONENT - CONNECTORS FOR USE IN DATA, SIGNAL, CONTROL AND POWER
APPLICATIONS**

AMP, Incorporated
Harrisburg, PA

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CERTIFICATE OF COMPLIANCE

Certificate Number 20130509-E28476
Report Reference E28476-19740509
Issue Date 2013-MAY-09

Issued to: TYGO ELECTRONICS CORP
2100 PAXTON ST
HARRISBURG PA 17111

**This is to certify that
representative samples of**

COMPONENT - CONNECTORS FOR USE IN DATA, SIGNAL,
CONTROL AND POWER APPLICATIONS


MATE-N-LOK™ Line; Dual Lance, Commercial and Universal. Basic
catalog numbers tabulated below have Prefixes 1 to 9 and Suffixes -0 to
-9.

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: Component Connectors for Use in Data, Signal, Control and
Power Applications, UL 1977

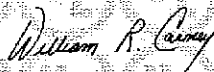
Additional Information: See the UL Online Certifications Directory at
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Only those products bearing the UL Recognized Component Mark should be considered as being
covered by UL's Recognition and Follow-Up Service.

The UL Recognized Component Mark generally consists of the manufacturer's identification and
catalog number, model number or other product designation as specified under "Marking" for the
particular Recognition as published in the appropriate UL Directory. As a supplementary means of
identifying products that have been produced under UL's Component Recognition Program, UL's
Recognized Component Mark, , may be used in conjunction with the required Recognized Marks.
The Recognized Component Mark is required when specified in the UL Directory preceding the
recognitions or under "Markings" for the individual recognitions.

The final acceptance of the component is dependent upon its installation and use in complete
equipment submitted to UL LLC.

Look for the UL Recognized Component Mark on the product.



William R. Carney, Director, North American Certification Programs
UL LLC

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contact a local UL Customer Service Representative at www.ul.com/contactus



DESCRIPTION

PRODUCT COVERED:

*Component - **MATE-N-LOK™ Line; Dual Lance, Commercial and Universal.**
Basic catalog numbers tabulated below have Prefixes 1 to 9 and Suffixes -0 to -9.

GENERAL:

Commercial MATE-N-LOK™; Illustrations 13 thru 62

(MATE-N-LOK Line also covered in Vol. 4, Sec. 2. Previously covered in report dated August 15, 1963).

Number of Poles	Plugs	Plugs	Receptacles	Receptacles
1	480350	480386	480349	480400
	480351	480401	480358	
	480357		480385	
2	151679	480720	151680	350759
	480319	480724	350209	350831
	480348	643175	350422	480318
	480498	794012	350428	480393
	480698	794120	350539	480683
			350540	480699
			350582	480723
				641983
			1586512	
			1586530	
3	163037	480700	163038	480388
	350541	480721	350210	480639
	480305	480726	350423	480682
	480387	480755	350429	480701
	480640	794412	350542	480725
		1586532	350583	480729
			350760	480756
			350832	641984
		480303	770112	
		480304	794413	
			1586514	
4	480317	641737	350211	480703
	480425	770156	350424	480727
	480426	794036	350430	641985
	480671	794116	350543	770328
	480702	794697	350544	794117
	480722	794902	350584	794118
	480728	925703	350761	925704
			350833	1586515
			480316	1586525
			480424	1586534
		480670	1586536	
		770827-1		

Number of Poles	Plugs	Plugs	Receptacles	Receptacles
5	480763		480390	
			480764	
6	163035	480644	163036	480273
	163046	480697	163047	480643
	480093	480704	350425	480646
	480271	480753	350431	480690
	480276	770279	350576	480696
	480340		350585	480705
	480402		350641	480754
			350762	480765
			350834	641986
			380999	1586526
			480270	1586539
				1586546
7	480454		480455	

Number of Poles	Plugs	Plugs	Receptacles	Receptacles
8	480284		350212	641987
	480345		350426	1586518
	480459		480283	1586528
	794048		480460	
9	480277		350432	480503
	480597		350577	480507
	480694		350586	480647
	480706		350642	480691
			350763	80707
		350835		
		480274		
10	480286		350219	641988
	480339		350592	1586544
	480389		380991	
	480430		480285	
	480432		480431	
12	163031	480645	163032	480446
	480278	480695	350213	480456
	480288	480708	350220	480461
	480378	480734	350433	480506
	480434	480751	350578	480648
	480457		350587	480692
			350643	480709
			350764	480733
			350836	480752
			480275	641989
			480287	1586520
			480377	1586524
			480433	
15	480324		350434	480323
	480710		350579	480508
	480713		350588	480711
			350644	480712
			350765	
		350837		
16	480439		350214	641990
	480748		350427	1586522
			480438	1586529
			480747	
20	480404			
21	480381		480380	
	480399		480398	
	480642		480641	

Cat. Nos. 770232-1 and 770233-1 covers may be provided as optional accessories for 4-pole plugs, Cat. Nos. 770156-2, -3, -4.

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

The devices are mating multi-pole receptacles and attachment plugs for use within electrical appliance enclosure. They are factory assembled on wire leads.

Conditions of Acceptability - In order to be judged acceptable as a component of electrical equipment, the following list of conditions should be met with particular consideration given to the specific contact and pin part numbers used.

1. These devices should be used only where they will not interrupt current.
2. These devices have not been tested for current-carrying capability except for housing Cat. Nos. 794116-1, 794117-1, 794118-1, 794412 and 794413 with contact and pin Cat. Nos. 61233-1 and 61234-1, which has been investigated for a current of 30 A with a max temperature rise of 29.9°C.
3. The suitability of the mounting means shall be determined in the end-use.
4. The electrical and mechanical suitability of the wiring terminals shall be determined in the end-use.
- 4A. Deleted
5. The placement of these devices within the appliance enclosure should be such that spacings between the live parts and the appliance are suitable for the particular application.
6. The adjacent poles may carry currents at potentials not exceeding 250 V between any two circuits or up to 600 V provided there is a min 1/8 in spacing between live parts of opposite polarity.
7. 600 V may be placed on any two nonadjacent poles if the intervening poles are omitted to increase the total spacing between the live parts of opposite polarity.
8. Voltage higher than 600 V may be accepted where the spacing requirements and Dielectric Strength Test requirements of the equipment in which they are used are met.

9. The contacts and pins are to be factory assembled on stranded wire sizes as specified in the description section of this report by crimping before assembling in the body.

10. The contact Part Nos. 60662 and 60780 are for factory assembly on copper wires by soldering to integral lug. It should be noted that the lug projects beyond the back edge of the insulating body.

10A. The contact Part Nos. 61320, 350073 and 350074 are for factory assembly to printed circuit boards by soldering. It should be noted that the lug projects beyond the back edge of the insulating body.

* 10B. The contact Part Nos. 350557-1 and 350558-1, factory assembled on dual wires, two 18 AWG and one 18 and one 16 AWG stranded copper wires have been investigated for a Conductor Secureness Test.

11. The strain relief clamps, Cat. Nos. 350589-1 and 350590-1 were not subjected to Strain Relief Tests.

12. The electrical and mechanical contact between the connector and the printed circuit board is to be judged in the end-use equipment.

13. The covers have not been subjected to Mold Stress or Accelerated Aging Tests.

14. The temperature on the phenolic housings should not exceed 150°C.

15. The suitability of the insulating material used in the molded bodies shall be judged in the end-use equipment.

16. The operating temperature of these devices should not exceed the temperature ratings of the insulating materials. These materials may be used interchangeably at a max temperature of 65°C.

17. Cat. Nos. 794116-1, 794117-1, 794118-1, 794412 and 794413 with contact and pin Cat. Nos. 61233-1 and 61234-1 have a max rating of 3000 V and have been evaluated for a dielectric voltage of 7000 V dc.

* 18. Cat. Nos. 1-480438-0 and 1-480439-0, with contact Part Nos. 350557-1 and 350558-1 crimped to dual wires, has been investigated for a current of 10 A carried by each pole with a max temperature of 58.3°C on two 18 AWG size wires and 50.1°C on one 18 AWG and one 16 AWG size wires.