DaimlerChrysler Ford General Motors

Part Submission Warrant

YAZAKI

Part Name	TERMINAL	Cust. Part Number	EU5T-14474-HAA
Shown on Drawing No.	97BG-14474-CDA	Org. Part Number	7116-7142-06
Engineering Change Level	K7/AELE-E-11784007-562	Dated	05/12/2018
Additional Engineering Changes	N/A	Dated	N/A
Safety and/or Government Regulation	☐ Yes ☑ No	Purchase Order No.	N/A
Weight (kg)	0,0011		
Checking Aid No.	N/A	Checking Aid Engineering Change Level	N/A
Dated	N/A		

ORGANIZATION MANUFACTURING INFORMATION

YAZAKI EUROPE LTD — 323047696
Organization Name & Supplier/Vendor Code

Richard-Byrd-Strasse 4-6a
Street Address

Cologne | NRW | D-50829 | Germany
City | Region | Postal Code | Country

CUSTOMER SUBMITTAL INFORMATION

NURSAN
Customer Name/Division

Buyer/Buyer Code

FORD
Application

MATERIALS REPORTING

Has customer-required Substances of Concern information been reported? ☑ Yes ☐ No ☐ n/a

Submitted by IMDS or other customer format: IMDS
IMDS ID: 186107190/1

Are polymeric parts identified with appropriate ISO marking codes? ☐ Yes ☐ No ☑ n/a

REASON FOR SUBMISSION (Check at least one)

- ☐ Initial submission
- ☐ Engineering Change(s)
- ☐ Tooling: Transfer, Replacement, Refurbishment, or additional
- ☐ Correction of Discrepancy
- ☐ Tooling Inactive > than 1 year
- ☐ Change to Optional Construction or Material
- ☐ Supplier or Material Source Change
- ☐ Change in Part Processing
- ☐ Parts produced at Additional Location
- ☑ Other - please specify below: Customer Request

REQUESTED SUBMISSION LEVEL (Check one)

- ☐ Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.
- ☑ Level 2 - Warrant with product samples and limited supporting data submitted to customer.
- ☐ Level 3 - Warrant with product samples and complete supporting data submitted to customer.
- ☐ Level 4 - Warrant and other requirements as defined by customer.
- ☐ Level 5 - Warrant with product samples and complete supporting data reviewed at organization's manufacturing location.

SUBMISSION RESULTS

The results for ☑ dimensional measurements ☑ material and functional tests ☐ appearance criteria ☐ statistical process package

These results meet all drawing and specification requirements: ☑ Yes ☐ NO (If "NO" - Explanation Required)

Mold / Cavity / Production Process: 2D4140

DECLARATION

I affirm that the samples represented by this warrant are representative of our parts which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at the production rate of **115,200 / 8** hours.
I also certify that documented evidence of such compliance is on file and available for review. I have noted any deviations from this declaration below.

EXPLANATION/COMMENTS:

Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☑ n/a

Organization Authorized Signature: Telmo Oliveira — Date: 07 February 2023

Print Name: Telmo Oliveira — Phone No. +351 256 245 544 — FAX No.

Title: QE — E-mail: telmo.oliveira@yazaki-europe.com

FOR CUSTOMER USE ONLY (IF APPLICABLE)

PPAP Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other

Customer Signature — Date

Print Name — Customer Tracking No. (optional)

Sample Component Inspection Report

CUSTOMER PART NO.	**EU5T-14474-HAA**		**7116-7142-06**
CUSTOMER	**FORD**		**TRMNL WIR SNP ON FEM**
SUPPLIER	**Circuit Controls**		**12/5/18**
DIE/MOLD NO.	**2D4140**		**AELE-E-11784007-562**
NUMBER CAVITIES	**Progressive Die**	☒ **PRODUCTION**	☐ **PROTOTYPE**

DIM #	DRAWING DIMENSION	TOLERANCE	1	2	3	4	5
1	2.00	+/-0.30	2.02	2.02	2.01	2.01	2.01
2	2.00	+/-0.30	1.99	1.99	2.00	2.00	2.00
3	4.30	+/-0.30	4.22	4.21	4.22	4.23	4.22
4	1.50	+/-0.30	1.50	1.50	1.49	1.49	1.50
5	22.10	+/-0.10	22.11	22.10	22.10	22.11	22.11
6	8.70	+/-0.30	8.73	8.73	8.71	8.72	8.82
7	24.30	+/-0.40	24.12	24.10	24.10	24.11	24.12
8	11.00	+/-0.30	10.96	10.97	10.96	10.98	10.96
9	4.50	+/-0.20	4.52	4.54	4.53	4.52	4.52
10	3.00	+/-0.20	2.99	3.01	3.00	2.99	2.99
11	1.30	+/-0.10	1.28	1.30	1.27	1.27	1.30
12	2.70	+0.05/-0.15	2.66	2.66	2.67	2.65	2.66
13	7.50	+0.05/-0.15	7.40	7.40	7.42	7.41	7.42
7.14	3.40	+0.05/-0.15	3.34	3.34	3.31	3.33	3.32
15	3.80	+0.05/-0.15	3.77	3.75	3.75	3.77	3.76
16	4.60	+/-0.30	4.68	4.67	4.65	4.68	4.68
17	1.00	+/-0.20	1.08	1.09	1.08	1.08	1.09
18	3.20	+/-0.30	3.21	3.23	3.23	3.22	3.21
19	Material thickness t=0.40		0.39	0.39	0.39	0.39	0.39
20	5.00	+/-0.20	5.09	5.10	5.10	5.11	5.09
21	30°	+/-5°	29°	29°	29°	29°	29°
22	1.35R	+/-0.20	1.37R	1.37R	1.37R	1.37R	1.37R
23	8.30	+/-0.20	8.24	8.25	8.25	8.24	8.24
24	30°	+/-5°	30°	30°	30°	30°	30°
25	2.70R	+/-0.20	2.73R	2.72R	2.72R	2.74R	2.72R
26	Mating effort	13.72N max.	10.41N	8.99N	10.13N	9.84N	8.75N
27	Material: Ag Copper Alloy		OK	OK	OK	OK	OK
28	3 Detents		3 OK	3 OK	3 OK	3 OK	3 OK

Inspected By: **Roger Gillian** **Date:** **10/19/22**
Q.E. Approval: **Gary T. Mason** **Date:** **10/25/22**

23A194

CERTIFICATION REPORT

Aurubis

SOLD TO	SHIP TO	ENTRY - BOL
CIRCUIT CONTROLS CORP. 2277 M-119 HIGHWAY PETOSKEY, MI 49770	CIRCUIT CONTROLS CORP. 2277 M-119 HIGHWAY PETOSKEY, MI 49770	39868-462922
		ALLOY: KLF5

PRODUCT DESCRIPTION	QUANTITY ORDERED		CUSTOMER ORDER NO.
1.3858 .01570 H04 PHOS BRONZE KLF-5 STRIP P/N 1794-4000-3520 DATED 11/23/10	PCS. LBS. 999003	PCS. 1 LBS. 1450 DATE 1/24/2023 TIME 8:46:24 AM	OUTO-3/PULL GOVT CONTRACT NO.

COIL NUMBER	461484					MIN	MAX
COMPOSITION - %							
Copper	97.73					REM	
Iron	.090					.08	.12
Phosphorous	.033					.025	.040
Tin	2.05					1.8	2.2
PROPERTIES							
Tensile Str. (N/mm²)	570					541	640
Elongation (%)	8.9					8.0	
Grain Size (RTF) in mm	.010						.020
Vickers	180					170	200
Bend Test (L)	OK					180	
Bend Test (T)	OK					180	
Elec. Cond. (%) IACS	37.30					30.00	40.00
RA Side-A (µm)	.12						.20
RA Side-B (µm)	.13						.20
Spring Limit (N/mm²)	514.6					440.7	540.0
Gauge in mm	.396					.390	.410

WE HEREBY CERTIFY that these test results were obtained from samples taken from coil(s), which were produced for the purchase order stated. These samples have been subjected to the tests called for by the customer and /or ASTM specification(s).

This product was manufactured in compliance with all applicable government and safety constraints on restricted, toxic, and hazardous materials and complies to the Restriction of Hazardous Substances RoHS 3 (EU Directive 2015/863) and the Consumer Product Safety Improvement Act of 2008.

Aurubis Buffalo, Inc. product Safety Data Sheets (SDS) provides component information for all hazardous materials in conformance with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

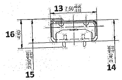
Lawrence Wypij

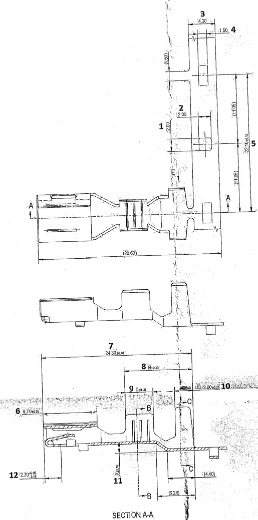
Technical Department - Lawrence Wypij

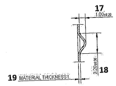
						27 TERMINAL INFORMATION						(K2)	(K3)	(K5)	(K4)		(K6)
FORD PART NO	YAZAKI PART NO.	PART NAME	TRC(S)	GREASED Y/N	MATERIAL	MATERIAL TEMPER	MATERIAL THICKNESS	PLATING MATERIAL	PLATING THICKNESS	COPPER WEIGHT	TOTAL WEIGHT	CONDUCTOR MIN/MAX CSA	INSULATION MIN/MAX OD	INSULATION WING BLANK WIDTH	TEMPERATURE CLASS	VIBRATION CLASS	BRANDING & CODING
97BG-14474-CDA	7116-4140-02	6.3 SYSTEM TERMINAL (F)	G121	N	COPPER ALLOY	(177)HV	(0.40)mm	TIN	N/A	N/A	(1.00) g	0.461 - 1.267	1.40 - 2.34	(13.40)	T3	V2	N/A
97BG-14474-CEA	7116-4141-02	6.3 SYSTEM TERMINAL (F)	G121					TIN			(1.10) g	1.345 - 2.45	2.20 - 3.00	(15.60)	T3	V2	
EU5T-14474-KAA	7116-4141-06	6.3 SYSTEM TERMINAL (F)	G121					SILVER			(1.10) g			(15.60)	T3	V2	
97BG-14474-CFA	7116-4142-02	6.3 SYSTEM TERMINAL (F)	G121					TIN			(1.10) g	2.80 - 3.95	3.10 - 3.70	(17.20)	T3	V2	
EU5T-14474-HAA	7116-7142-06	6.3 SYSTEM TERMINAL (F)	G121					SILVER			(1.20) g			(17.20)	T3	V2	
1C1T-14474-AA	7116-4143-02	6.3 SYSTEM TERMINAL (F)	G121					TIN			(1.20) g	4.38 - 5.93	3.84 - 4.30	(19.30)	T3	V2	
KU5T-14474-AA	7116-4143-06	6.3 SYSTEM TERMINAL (F)	G121					SILVER			(1.20) g			(19.30)	T3	V2	

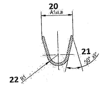
TERMINAL CRIMP & GRIP REFERENCE TABLE

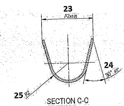
	FORD PART NO	WIRE TYPE/ SPECIFICATION (DESIGN INTENT)	WIRE SIZE	STRIP LENGTH (mm)	CONDUCTOR CRIMP INFO C.C.W. (mm) (±0.10)	CONDUCTOR CRIMP INFO C.C.H (mm) (±0.05)	INSULATION CRIMP INFO I.C.W (mm) (±0.10)	INSULATION CRIMP INFO I.C.H. (mm) (±0.05)	APPLICABLE WIRE SEAL FORD PART NO.	NOTES / VALIDATION SOURCE
	97BG-14474-CDA	WSK-M1L126-A_	0.50mm²	5.00 - 5.50	2.60	1.30	4.55	4.40	97BG-10C930-J*	
	97BG-14474-CDA	WSK-M1L126-A_	0.75mm²	5.00 - 5.50	2.60	1.40	4.55	4.50	97BG-10C930-J*	
	97BG-14474-CDA	WSK-M1L126-A_	1.00mm²	5.00 - 5.50	2.60	1.50	4.55	4.70	97BG-10C930-J*	
	97BG-14474-CEA EU5T-14474-KAA	WSK-M1L126-A_	1.50mm²	5.00 - 5.50	3.05	1.70	5.25	5.00	97BG-10C930-K*	
	97BG-14474-CEA EU5T-14474-KAA	WSK-M1L126-A_	2.50mm²	5.00 - 5.50	3.05	1.95	5.25	5.50	97BG-10C930-K*	
(K1)	97BG-14474-CFA	ES-AU5T-1A348-AA	3.00mm² - 3TBD	5.00 - 5.50	3.65	1.90	6.15	5.90±0.10	97BG-10C930-L*	
	97BG-14474-CFA EU5T-14474-HAA	WSK-M1L126-A_	4.00mm²	5.00 - 5.50	3.65	2.20	6.15	6.00	97BG-10C930-L*	
(J1)	1C1T-14474-AA	ES-AU5T-1A348-AA	6.00mm² - 3TAD	5.50 - 6.00	4.20	2.40	6.65±0.10	6.70±0.10	1C1T-14603-A*	
	97BG-14474-CDA	ESB-M1L123-A_	20 AWG	5.00 - 5.50	2.60	1.30	4.55	4.50	97BG-10C930-J*	
	97BG-14474-CDA	ESB-M1L123-A_	18 AWG	5.00 - 5.50	2.60	1.40	4.55	4.70	97BG-10C930-J*	
	97BG-14474-CDA	ESB-M1L123-A_	16 AWG	5.00 - 5.50	2.60	1.55	4.55	4.80	97BG-10C930-K*	
	97BG-14474-CEA EU5T-14474-KAA	ESB-M1L123-A_	14 AWG	5.00 - 5.50	3.05	1.80	5.25	5.20	97BG-10C930-K*	
	97BG-14474-CFA	ESB-M1L123-A_	12 AWG	5.00 - 5.50	3.65	2.05	6.15	5.80	97BG-10C930-L*	
	1C1T-14474-AA KU5T-14474-AA	ESB-M1L123-A_	10 AWG	5.00 - 6.00	4.20	2.25	6.70	6.60	1C1T-14603-A*	











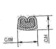
LTRS	REVISIONS		
ORIGINATOR	CHECKER	ENGR APP.	MATL APP.
RELEASED 97BG-14474-CDA/-CEA/-CFA EE00-E-10534718-000 960215 CAD.Y			
YAZAKI	G. NOETHEN	F. SENYUEZ	
UPDATE TO PRODUCTION LEVEL EE00-E-10761294-000 970804 CAD.Y			
YAZAKI	G. NOETHEN	F. SENYUEZ	
REDRAWN TO THE LATEST FORD DRAWING STANDARDS AFTER REVISION H J1 ADDED 6.00mm² WIRE SIZE FOR 1C1T-14474-AA AELE-E-11784007-448 20170913			
J. GONZALEZ	J. GERWATOWSKI	JPITTEN1	
UPDATED TO THE LATEST FECDS (VER 30) K1 ADDED 3.00mm² 3TBD WIRE SIZE FOR 97BG-14474-CFA K2 REVISED "CONDUCTOR MIN/MAX CSA" COLUMN K3 REVISED "INSULATION MIN/MAX OD" COLUMN K4 CHANGED "MAX. AMBIENT TEMPERATURE" COLUMN TO "TEMPERATURE CLASS" K5 ADDED "INSULATION WING BLANK WIDTH" COLUMN K6 ADDED "BRANDING & CODING" COLUMN K7 UPDATED NOTES TO LATEST FECDS AELE-E-11784007-562 20181205			
H.AVITIA	J. GAGNON	JPITTEN1	

CIRCUIT CONTROLS CORPORATION

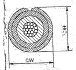
JAN 1 7 2020

ENGINEERING DEPARTMENT

CONTROLLED COPY



RECOMMENDED CRIMP SHAPE CONDUCTOR CRIMP



RECOMMENDED CRIMP SHAPE INSULATION CRIMP

(K7) NOTES:

1. PARTS CONFORM TO THE ELECTRICAL CONNECTION SYSTEM DESIGN SPECIFICATION (SDS), REVISION 8.0, DATED 20-NOV-00, WITH THE FOLLOWING EXCEPTION: EL-0072.
2. PARTS CONFORM TO ENGINEERING SPECIFICATION ES-F8DB-14A464-AA (USCAR), DATED 95/07/08, FOR COMPONENT TEMPERATURE CLASS 3.
26 3. MAXIMUM MATING FORCE FOR SINGLE TIN TERMINAL= 14N. MAXIMUM MATING FORCE FOR SINGLE SILVER TERMINAL= 13.72N.
4. MATING MALE TERMINAL: 97BG-14421-CDA, ETC. (7114-4140-02, ETC).
5. PART AS RECEIVED AT THE FORD PLANT OR SERVICE PART PACKAGER / WAREHOUSE SHALL BE FREE OF ANY CORROSION ALIGNED WITH THE FORD CUSTOMER SERVICE DIVISION (FCSD) PACKAGING AND SHIPPING GUIDE. PACKAGING AND PROTECTIVE MATERIALS MUST PRESERVE THE INTENDED FUNCTION AND APPEARANCE OF THE PART.
6. CHANGES TO DESIGN, COMPOSITION OR PROCESSING OF THE PART PREVIOUSLY APPROVED FOR PRODUCTION REQUIRE PRIOR APPROVAL FROM FORD MOTOR COMPANY PRODUCT ENGINEERING. REFER TO ISO/TS 16949
7. FOR CURRENT RELEASE STATUS, SEE THE WERS ENGINEERING NOTICE.
8. THIS DRAWING HAS BEEN PREPARED BY OR ON BEHALF OF FORD MOTOR COMPANY. FORD MOTOR COMPANY RETAINS ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING COPYRIGHTS. THIS DRAWING MUST NOT BE USED FOR ANY PURPOSE OTHER THAN PERFORMING SERVICES DIRECTLY OR INDIRECTLY TO FORD MOTOR COMPANY, WITHOUT THE EXPRESSED WRITTEN PERMISSION OF FORD MOTOR COMPANY. UNAUTHORIZED USE, COPYING OR MODIFICATION, INCLUDING THE REMOVAL OF THIS NOTE, MAY CONSTITUTE A VIOLATION OF CIVIL OR CRIMINAL LAWS ENFORCEABLE BY FORD OR GOVERNMENTAL AGENCIES. COPYRIGHT (2019) FORD MOTOR COMPANY
9. WHEN TIN OR SILVER PLATED TERMINAL IS USED, THEN THE SAME PLATING (TIN OR SILVER) MUST BE USED ON MATING SIDE.
10. PART TO COMPLY WITH YPES-31-038 REQUIREMENTS.
11. 6.3 SYSTEM BLIND PLUG: 97BG-10C930-M* (7158-3080-60)

(K1) (J1)

28 WIRE GRIP SIZE IDENTIFICATION (2/1)

97BG-14474-CDA / 7116-4140-02

97BG-14474-CEA / 7116-4141-02
EU5T-14474-KAA / 7116-4141-06

97BG-14474-CFA / 7116-4142-02
EU5T-14474-HAA / 7116-7142-06

1C1T-14474-AA / 7116-4143-02
KU5T-14474-AA / 7116-4143-06

FORD PART NO.	YAZAKI PART NO.	A1	A2	R1	R2	X	C	B	t
97BG-14474-CDA	7116-4140-02	3.10	6.40	0.70	1.90	0.50	4.00	10.50	0.40
97BG-14474-CEA EU5T-14474-KAA	7116-4141-02 7116-4141-06	4.00	7.30	0.95	2.20	0.80	4.00	10.50	0.40
97BG-14474-CFA EU5T-14474-HAA	7116-4142-02 7116-7142-06	5.00	8.30	1.35	2.70	1.30	4.50	11.00	0.40
1C1T-14474-AA KU5T-14474-AA	7116-4143-02 7116-4143-06	5.60	9.10	1.35	2.90	1.50	4.50	11.00	0.40

(K2) (K3) (K5) (K4) (K6) (K7)

GENERAL TOLERANCE

	10 MAX	50 MAX	100 MAX	250 MAX	250 OVR	R5 MAX	R10 MAX	R20 MAX	R20 OVR	ANGLE	ECCENT
A	±0.15	±0.20	±0.30	±0.50	±0.75	±0.20	±0.30	±0.50	±2.50	±3°	0.10
B	±0.20	±0.30	±0.55	±0.95	±1.40					±3°	0.10
(C)	±0.30	±0.50	±0.80	±1.40	±2.00					±3°	0.15

YAZAKI NORTH AMERICA, INC.			
APPROVED	CHECKED	CHECKED	DRAWN
jeremy. gagnon@ usyazaki. com	James Littek		HECTOR AVITIA
			05-08-2019

DESCRIPTION	PART NAME	PART NUMBER
EXTRA LARGE GRIP (SILVER PLATING)	TRMNL WIR SNP ON FEM	KU5T-14474-AA
LARGE GRIP (SILVER PLATING)	TRMNL WIR SNP ON FEM	EU5T-14474-HAA
MEDIUM GRIP (SILVER PLATING)	TRMNL WIR SNP ON FEM	EU5T-14474-KAA
EXTRA LARGE GRIP (TIN PLATING)	TRMNL WIR SNP ON FEM	1C1T-14474-AA
LARGE GRIP (TIN PLATING)	TRMNL WIR SNP ON FEM	97BG-14474-CFA
MEDIUM GRIP (TIN PLATING)	TRMNL WIR SNP ON FEM	97BG-14474-CEA

YAZAKI

YAZAKI NORTH AMERICA
734-983-1000
6801 HAGGERTY RD.
CANTON, MI 48187, USA

ENG APP	SEE APPROVAL BOX	APP. DATE	SEE APPROVAL BOX
GSDB CODE Y230	SUPPLIER PART NUMBER 7116-7140-02		

REFERENCE 6.3 SYSTEM SEALED FEMALE TERMINAL

MUST CONFORM TO RESTRICTED SUBSTANCE MANAGEMENT STANDARD WSS-M99P9999-A1 TO SAFEGUARD HEALTH, SAFETY AND THE ENVIRONMENT

DRAFTED IN ACCORDANCE WITH FORD MOTOR COMPANY ENGINEERING CAD AND DRAFTING STANDARDS VERSION 30 — 3RD ANGLE PROJ. DIMENSIONS ARE IN MILLIMETERS

CAD TYPE X-SOLIDWORKS	CAD LOC. TC	CAD FILE 7116-7142-06-UF		DTMC IS MASTER
PLANT CODE N/A	LINE CODE N/A	OPER. NO. N/A	BT NO. N/A	STATION N/A	SIZE A0
PLANT NAME N/A		DEPT NO. N/A	DESIGN. YAZAKI	SCALE 5/1	SHT 1 OF 2

TITLE / PART NAME: TRMNL WIR SNP ON FEM

DRAWING / PART NO. 97BG-14474-CDA — N/A

FORD MOTOR COMPANY

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