



THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY


COMMUNICATION CONCERNING THE APPROVAL GRANTED <sup>(1)</sup>/ APPROVAL EXTENDED <sup>(1)</sup>/  
~~APPROVAL REFUSED <sup>(4)</sup>/ APPROVAL WITHDRAWN <sup>(4)</sup>/ PRODUCTION DEFINITELY  
DISCONTINUED <sup>(1)</sup>~~ OF A TYPE OF ELECTRICAL/ ELECTRONIC SUB-ASSEMBLY <sup>(1)</sup> WITH  
REGARD TO REGULATION NO. 10.05



Approval No: 10R-055528

Extension No: 01

1. Make (trade name of manufacturer): Teal Patents Limited
2. Type and general commercial description(s): Portable hot hand wash providing hot water, with over temperature and low water warning and intelligent control not to drain battery
3. Means of identification of type, if marked on the ~~vehicle/component/ separate technical unit~~: <sup>(1)</sup>  
Tealwash: 12&24 -TW12 & TW24, Compact Classic CCLB12 & CCLB 24, Handeman: HM12, HM24 & HMLW12, HMX12, HMX24, HMXLW12
  - 3.1. Location of that marking: Serial label attached to right hand side exterior of product
4. Category of vehicle: Not applicable
5. Name and address of manufacturer:  
  
Teal Patents Limited  
Unit 2, Waterloo Avenue  
Chelmsley Wood Industrial Estate  
Birmingham, B37 6QQ
6. In the case of components and separate technical units, location and method of affixing of the approval mark: Added to serial label

7. Address(es) of assembly plant(s):  
Teal Patents Limited  
Unit 2, Waterloo Avenue  
Chelmsley Wood Industrial Estate  
Birmingham, B37 6QQ
8. Additional information (where applicable): See Appendix below
9. Technical Service responsible for carrying out the tests: SGS United Kingdom Limited
10. Date of test report: As before and Technical Review 10 May 2018
11. No. of test report: As before and Technical Review AUT253842/1
12. Any remarks: Approval to Supplement 1  
See Appendix below
13. Place: BRISTOL
14. Date: 06 JUNE 2018
15. Signature:  D LAWLOR  
Chief Technical and Statutory Operations Officer
16. The index to the information package lodged with the Approval Authority, which may be obtained on request, is attached
17. Reasons for extension: To cover change to PCB – BOM.
- (1) Strike out what does not apply.

## Appendix

to type-approval communication form No. 10R-055528 Extension 01

concerning the type-approval of an electrical/electronic sub-assembly under Regulation No. 10.05

1. Additional information:
    - 1.1. Electrical system rated voltage: 12-24V. pos/neg ground <sup>(1)</sup>
    - 1.2. This ESA can be used on any vehicle type with the following restrictions: 12-24VDC.
      - 1.2.1. Installation conditions, if any: Fitted according to instructions supplied.
    - 1.3. This ESA can be used only on the following vehicle types: Not applicable
      - 1.3.1. Installation conditions, if any: Not applicable
    - 1.4. The specific test method(s) used and the frequency ranges covered to determine immunity were: (Please specify precise method used from Annex 9): Not applicable
    - 1.5. Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests: SGS United Kingdom Limited. (Durham United Kingdom)
  2. Remarks: None
- (1) Strike out what does not apply.

ECE Reg 10.05 information regarding  
approval for E-marking of Component/STU.

General Details: PCB - BOM Change

- Section 1                      Make. (trade name of manufacturer)  
Teal Patents Limited.
- Section 2                      Type: General Commercial Description.  
Portable hot hand wash providing hot water, with over temperature and low water warning and intelligent control not to drain battery.
- Section 3                      Means of identification of type, if marked on the Component/STU.  
Tealwash: 12&24 -TW12 &TW24, Compact Classic CCLB12 & CCLB 24, Handeman: HM12, HM24 & HMLW12, HMX12, HMX24, HMXLW12.
- Section 3.1                      State where the identification / model number is situated on the product, and how it is marked. Serial label attached to right hand side exterior of product.
- Section 4                      Name and address of Manufacturer  
Teal Patents Ltd  
Unit 2, Waterloo Avenue, Chelmsley Wood Industrial Estate, Birmingham, B37 6QQ.
- Section 4.1                      Name and address of Manufacturer's representative inside the European Union. N/A.
- Section 5                      State how and where the type approval E mark will be affixed  
Added to serial label.
- Section 6                      Address(es) of assembly plant(s)  
Teal Patents Ltd  
Unit 2, Waterloo Avenue, Chelmsley Wood Industrial Estate, Birmingham, B37 6QQ.
- Section 7                      This product shall be approved as a component/STU (delete as applicable) Component.
- Section 8                      Restrictions of use and conditions for fitting.  
Fitted according to instructions supplied
- Section 9                      Electrical system rated voltage Positive/negative Ground.  
Negative 12 – 24Volt vehicles.



Only applicable for charging systems: (REESS)

Section 10                      Charger: on board/external<sup>2</sup>.  
N/A.

Section 11                      Charging current: direct current/alternating current (number of phases/frequency<sup>2</sup>).  
N/A.

Section 12                      Maximal nominal current (in each mode if necessary).  
N/A.

Section 13                      Nominal charging voltage.  
N/A.

Section 14                      Basic ESA interface functions: ex. L1/L2/L3/N/PE/control pilot.  
N/A.

Section 15                      Minimum  $R_{sce}$  value (see paragraph 7.11. of this Regulation.  
N/A.



**Operating Procedure**  
171005-ECN-100-00-005.doc

From:	DANIEL HARRIS	To:	TRADPOST
Date:	14/02/2018	Attention:	CATHY / ELLICK
Our ref:	100-00-005		

**ENGINEERING CHANGE NOTE  
PLEASE SIGN IN THE BOX AND FAX BACK**

DOCUMENT REFERENCE:	171005-ECN-100-00-005.DOC
OLD GEM JOB REFERENCE:	BOM REV 1.3
NEW GEM JOB REFERENCE:	BOM REV 1.4
CUSTOMERS JOB REFERENCE:	HANDYMAN 2 REV B
IMPLEMENT FROM:	<b>ALL FUTURE DESPATCHES</b>

- 1) 100-00-006A CHANGED TO 100-00-006B.
- 2) C7 ADDED AS C01286.
- 3) ICI CHANGED TO C01695.
- 4) R13,R14,R15 AS C01271.
- 5) D8 ADDED AS C01696.
- 6) C01279 CHANGED TO C01697.
- 7) HEIGHT OF TOP OF THE BODY OF F1 CHANGED TO 14MM.
- 8) NOTE 8 CHANGED TO 'Thermistor, LED and Override wires to have holt melt glue to PCB'.
- 9) J2 CHANGED TO DO NOT FIT.
- 10) C01282 CHANGED TO C01698.
- 11) TH1 ADDED AS C00013.
- 12) P3 ADDED AS WHITE 22AWG
- 13) J3LED-B WIRE LENGTH CHANGED TO 200MM
- 14) J3LED-R WIRE LENGTH CHANGED TO 200MM
- 15) NEW HEX FILE Temp\_Rev B.hex
- 16) C01265 CHANGED TO C01703
- 17) C01270 CHANGED TO 100-00-012
- 18) RESEQUENCED.

<b>AGREED BY CUSTOMER &amp; MANUFACTURER</b>	
--	--



Sage Stock Number: 100-00-005  
 Sage Description: ASS: HANDYMAN 2 REV B [BOM REV 1.4]  
 BOM Ref: 1761  
 BOM Desc: ASS: HANDYMAN 2 [BOM REV 1.3]  
 Customer Job Ref: HANDYMAN II  
 Report Date: 13/04/2018 12:33:52

**BOM Revision History:**  
 1.0) INTRODUCED.  
 1.1) BUILD TO 141014-ECN-100-00-005. DJH-141014  
 1.2) C01282 CHANGED TO FACTORY SUPPLIED. DJH-150529  
 1.3) C00014 ADDED AS ALTERNATIVE FOR F1. DJH-150722

**Build Comment:**  
 Notes:  
 1) F1 mounted so that top of component is 10mm above PCB  
 2) Fuse F1 MUST be G5 series if the unit is to be used in a Tealwash.  
 3) LED soldered to thin twisted red/black wire and insulated with HeatShrink  
 4) Conformal coating both sides required (J5 and heater terminals not coated)  
 5) Large heatshrink to be fitted to 2.5mm wires 50 mm from wire ends  
 6) 2.5 mm wire ends to be stripped 5 mm  
 7) All connectors are NOT fitted  
 8) Thermistor and LED wires to have hot melt glue to PCB  
 9) LED anode to red wire, red wire to pin 1 of J3  
 10) Thermistor must have 100mm wires  
 11) Take care when soldering F1 as device is heat sensitive.

**Next Build Instructions:**

Seq	Description	Qty	Location	Supplier	GEM#	Manf	Manf Part Num	Fitted	Comment
1	PACKING CARTON	0.020		Factory	UC	TRADPOST LIMITED		YES	
2	ANTI-STATIC BAG	1.000		Factory	UC	TRADPOST LIMITED		YES	
3	LABOUR FOR HANDYMAN 2	1.000		Factory	100-00-005			YES	
4	PCB: HANDYMAN 2 REV A	1.000	PCB	GEM	100-00-006A			YES	
5	CAP CML 0805 100NF 50V Y5V +80%/-20%	3.000	C1,C2,C6	GEM	C01286			YES	
6	CAP CML 0805 1UF Y5V 50V +80% -20%	3.000	C3,C4,C5	GEM	C01287			YES	
7	DIODE ZENER SOD-123 12V 0.5W	1.000	D6	GEM	C01263	NOT APPLICABLE	BZT52C12	YES	
8	DIODE ZENER SOD-123 33V 0.5W	1.000	D7	GEM	C01264	NOT APPLICABLE	BZT52C33	YES	
9	DIODE SCHOTTKY DO-214AA 1A 100V	1.000	D9	GEM	C01265	VISHAY	VS-MBRS1100TRPBF	YES	
10	FUSE THERMAL 16A 121°C	1.000	F1	GEM	C01266	THERMODISC	G5A01121C	YES	
10.1	FUSE THERMAL 121DEG 230V E5A01121C		F1		C00014	MICROTEMP	E5A01121C		ALTERNATIVE COMPONENT FOR LOCATION F1
11	IC SOIC8 MCU 8BIT PIC12 20MHZ	1.000	IC1	GEM	C01267	MICROCHIP	PIC12F675-I/SN	YES	
12	IC SOIC8 V REG +5.0V 78L05 35V	1.000	IC2	GEM	C01268	NOT APPLICABLE	TS78L05CS	YES	
13	DO NOT FIT	1.000	J4	N/A	UC			NO	
14	DO NOT FIT	1.000	J5	N/A	UC			NO	
15	RES THK FLM 0805 20K 1%	1.000	R1	Factory	C01271			YES	
16	RES THK FLM 0805 1K 150V 0.125W 1%	1.000	R2	Factory	C01272			YES	
17	RES THK FLM 0805 47K 150V 0.125W 1%	3.000	R3,R7,R8	Factory	C01273			YES	
18	RES THK FLM 0805 10K 0.1W 1%	4.000	R4,R5,R9,R12	Factory	C01274			YES	
19	RES THK FLM 0805 560R 150V 0.125W 1%	1.000	R6	Factory	C01275			YES	
20	RES THK FLM 0805 100R 150V 0.125W 1%	1.000	R10	Factory	C01276			YES	
21	RES THK FLM 0805 62K 0.125W 1%	1.000	R11	Factory	C01277			YES	
22	HEX FILE FOR HANDYMAN 2	1.000	TBC	GEM	C01289			YES	
23	THERMISTOR 10K NTC 5% L:102MM	1.000	J2	GEM	C00013	NO MANUFACTURER AVAILABLE SUPPLIER ONLY	103TA430102397702CLF	YES	
24	TRANS SOT23 100MA 65V	1.000	TR3	GEM	SEN-C029	NOT APPLICABLE	BC846	YES	
25	TRANS SOT23 PNP 0.1A 45V	1.000	TR4	GEM	C01278	NOT APPLICABLE	BC857B	YES	
26	DIODE MOSFET PQFN56 N CH 40V 29A	2.000	TR5,TR6	GEM	C01279	INTERNATIONAL RECTIFIER	IRLH5034TRPBF	YES	
27	WIRE RED 10/0.1MM 500MA 1KV 230MM STRIP AND TIN REEL:100M	1.000	J3LED-R	Factory	C01280			YES	TWIST TOGETHER WITH BLACK LED WIRE. SOLDER NON PCB END TO LED ANODE
28	WIRE BLACK 10/0.1MM 500MA 1KV 230MM STRIP AND TIN REEL:100M	1.000	J3LED-B	Factory	C01281			YES	TWIST TOGETHER WITH RED LED WIRE. SOLDER NON PCB END TO LED CATHODE
29	LED 5MM RED P:2.54MM 40MCD 617NM	1.000	ON-RED&BLK-LED-WIRES	GEM	C01270	KINGBRIGHT	L-1503ID	YES	SOLDER TO END OF RED AND BLACK LED WIRES (WIRES MUST BE TWISTED) LED ANODE TO RED WIRE
30	HEATSHRINK SP 2.4MM BLK CUT TO L:10MM	2.000	ON-RED&BLK-LED-WIRES	Factory	C01282			YES	USE TO SLEEVE BOTH LED LEG SOLDER JOINTS
31	WIRE RED 32A 600V CSA:2.5MM L:500MM STRIP & TIN REEL:100M	1.000	12V/24V	Factory	C01283			YES	SLEEVED WITH 300MM HEATSHRINK TOGETHER WITH BLACK 0V WIRE
32	WIRE BLACK 32A 600V CSA:2.5MM L:500MM STRIP & TIN REEL:100M	1.000	0V	Factory	C01284			YES	SLEEVED WITH 300MM HEATSHRINK TOGETHER WITH RED 12V/24V WIRE
33	HEATSHRINK SPDW3 9/3 BLK CUT TO L:300MM	1.000	POWER-WIRES	GEM	C01290			YES	SHRINK OVER RED 12V/24V WIRE AND BLACK 0V WIRE
<b>Total Component Count:</b>		<b>43.020</b>							



Sage Stock Number: 100-00-005  
 Sage Description: ASS: HANDYMAN 2 REV B [BOM REV 1.4]  
 BOM Ref: 1963  
 BOM Desc: ASS: HANDYMAN 2 REV B [BOM REV 1.4]  
 Customer Job Ref: HANDYMAN II  
 Report Date: 13/04/2018 12:28:29

**BOM Revision History:**  
 1.0) INTRODUCED.  
 1.1) BUILD TO 141014-ECN-100-00-005. DJH-141014  
 1.2) C01282 CHANGED TO FACTORY SUPPLIED. DJH-150529  
 1.3) C00014 ADDED AS ALTERNATIVE FOR F1. DJH-150722  
 1.4) BUILD TO 171005-ECN-100-00-005. DJH-051017

**Build Comment:**  
 Notes:  
 1) F1 mounted so that top of component is 14mm above PCB  
 2) Fuse F1 MUST be G5 series if the unit is to be used in a Tealwash.  
 3) LED soldered to thin twisted red/black wire and insulated with HeatShrink  
 4) Conformal coating both sides required (J5 and heater terminals not coated)  
 5) Large heatshrink to be fitted to 2.5mm wires 50 mm from wire ends  
 6) 2.5 mm wire ends to be stripped 5 mm  
 7) All connectors are NOT fitted  
 8) Thermistor, LED and Override wires to have holt melt glue to PCB  
 9) LED anode to red wire, red wire to pin 1 of J3  
 10) Thermistor must have 100mm wires  
 11) Take care when soldering F1 as device is heat sensitive.

**Next Build Instructions:**

Seq	Description	Qty	Location	Supplier	GEM#	Manf	Manf Part Num	Fitted	Comment
1	PACKING CARTON	0.020		Factory	UC	TRADPOST LIMITED		YES	
2	ANTI-STATIC BAG	1.000		Factory	UC	TRADPOST LIMITED		YES	
3	HEX FILE FOR HANDYMAN 2	1.000		GEM	C01289			YES	
4	LABOUR FOR HANDYMAN 2	1.000		Factory	100-00-005			YES	
5	PCB: HANDYMAN 2 REV B	1.000	PCB	GEM	100-00-006B			YES	
6	CAP CML 0805 100NF 50V Y5V +80%/-20%	4.000	C1,C2,C6,C7	GEM	C01286			YES	
7	CAP CML 0805 1UF Y5V 50V +80% -20%	3.000	C3,C4,C5	GEM	C01287			YES	
8	DIODE ZENER SOD-123 12V 0.5W	1.000	D6	GEM	C01263	NOT APPLICABLE	BZT52C12	YES	
9	DIODE ZENER SOD-123 33V 0.5W	1.000	D7	GEM	C01264	NOT APPLICABLE	BZT52C33	YES	
10	DIODE SOD123 ZENER SINGLE 3V3 500MW	1.000	D8	GEM	C01696	DIODES INCORPORATED	BZT52C3V3-7-F	YES	
11	DIODE DO-214AA SCHOTTKY RECTIFIER 100V	1.000	D9	GEM	C01703	ON-SEMI	MBSR1100T3G	YES	
12	FUSE THERMAL 16A 121°C	1.000	F1	GEM	C01266	THERMODISC	G5A01121C	YES	
12.1	FUSE THERMAL 121DEG 230V E5A01121C		F1		C00014	MICROTEMP	E5A01121C		ALTERNATIVE COMPONENT FOR LOCATION F1
13	IC SOIC14 20MHZ	1.000	IC1	GEM	C01695	MICROCHIP	PIC16F1503-I/SL	YES	
14	IC SOIC8 V REG +5.0V 78L05 35V	1.000	IC2	GEM	C01268	NOT APPLICABLE	TS78L05CS	YES	
15	THERMISTOR 10K NTC 5% L:102MM	1.000	J2	N/A	C00013	NO MANUFACTURER AVAILABLE SUPPLIER ONLY	103TA430102397702CLF	NO	
16	WIRE BLACK 10/0.1MM 500MA 1KV STRIP AND TIN REEL:100M	1.000	J3,LED-B	Factory	C01281			YES	CUT TO 200MM TWIST TOGETHER WITH RED LED WIRE. SOLDER NON PCB END TO LED CATHODE
17	WIRE RED 10/0.1MM 500MA 1KV STRIP AND TIN REEL:100M	1.000	J3,LED-R	Factory	C01280			YES	CUT TO 200MM TWIST TOGETHER WITH BLACK LED WIRE. SOLDER NON PCB END TO LED ANODE
18	DO NOT FIT	1.000	J4	N/A	UC			NO	
19	DO NOT FIT	1.000	J5	N/A	UC			NO	
20	HEATSHRINK SP 2.4MM BLK CUT TO L:20MM	2.000	ON-RED&BLK-LED-WIRES	Factory	C01698			YES	USE TO SLEEVE BOTH LED LEG SOLDER JOINTS
21	LED LAMP 5MM RED SAME AS H01046	1.000	ON-RED&BLK-LED-WIRES	GEM	100-00-012	EVERLIGHT	333ID-A-L	YES	SOLDER TO END OF RED AND BLACK LED WIRES (WIRES MUST BE TWISTED) LED ANODE TO RED WIRE
22	HEATSHRINK SPDW3 9/3 BLK CUT TO L:300MM	1.000	POWER-WIRES	GEM	C01290			YES	SHRINK OVER RED 12V/24V WIRE AND BLACK 0V WIRE. 40MM FROM PCB
23	RES THK FLM 0805 20K 0.125W 1%	4.000	R1,R13,R14,R15	Factory	C01271			YES	
24	RES THK FLM 0805 1K 150V 0.125W 1%	1.000	R2	Factory	C01272			YES	
25	RES THK FLM 0805 47K 150V 0.125W 1%	3.000	R3,R7,R8	Factory	C01273			YES	
26	RES THK FLM 0805 10K 0.1W 1%	4.000	R4,R5,R9,R12	Factory	C01274			YES	
27	RES THK FLM 0805 560R 150V 0.125W 1%	1.000	R6	Factory	C01275			YES	
28	RES THK FLM 0805 100R 150V 0.125W 1%	1.000	R10	Factory	C01276			YES	
29	RES THK FLM 0805 62K 0.125W 1%	1.000	R11	Factory	C01277			YES	
30	THERMISTOR 10K NTC 5% L:102MM	1.000	TH1	GEM	C00013	NO MANUFACTURER AVAILABLE SUPPLIER ONLY	103TA430102397702CLF	YES	
31	TRANS SOT23 100MA 65V	1.000	TR3	GEM	SEN-C029	NOT APPLICABLE	BC846	YES	
32	TRANS SOT23 PNP 0.1A 45V	1.000	TR4	GEM	C01278	NOT APPLICABLE	BC857B	YES	
33	DIODE MOSFET N CHANNEL 50A	2.000	TR5,TR6	GEM	C01697	VISHAY	SIR414DP-T1-GE3	YES	
34	WIRE BLACK 32A 600V CSA:2.5MM STRIP & TIN REEL:100M	1.000	0V	Factory	C01284			YES	CUT TO 500MM AND SLEEVED WITH 300MM HEATSHRINK TOGETHER WITH RED 12V/24V WIRE
35	WIRE RED 32A 600V CSA:2.5MM STRIP & TIN REEL:100M	1.000	12V/24V	Factory	C01283			YES	CUT TO 500MM AND SLEEVED WITH 300MM HEATSHRINK TOGETHER WITH BLACK 0V WIRE
36	WIRE WHITE 22AWG 500MM	1.000	P3	Factory	UC			YES	500MM FIT TO P3 OVERRIDE SOLDER HOLE
<b>Total Component Count:</b>		<b>50.020</b>							







The Vehicle Certification Agency (VCA)  
1. The Eastgate Office Centre  
Eastgate Road  
Bristol  
BS. 5. 6. XX.

10<sup>th</sup> May 2018.

Reference number AUT253824/1.

Dear Sir Madam,

With regards to EAU 427234 job number covering the E-mark extension to: E11 10R-055528 \* 00.

SGS agree with the client that the PCB BOM change will not change the compliance; to the requirements of ECE Reg 10.055528 approval.

Yours truly,

Geoff Hann.