



Documentation folder

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Project number 3469778
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Housing- Top view





Housing – Back view





Housing – without terminal cover





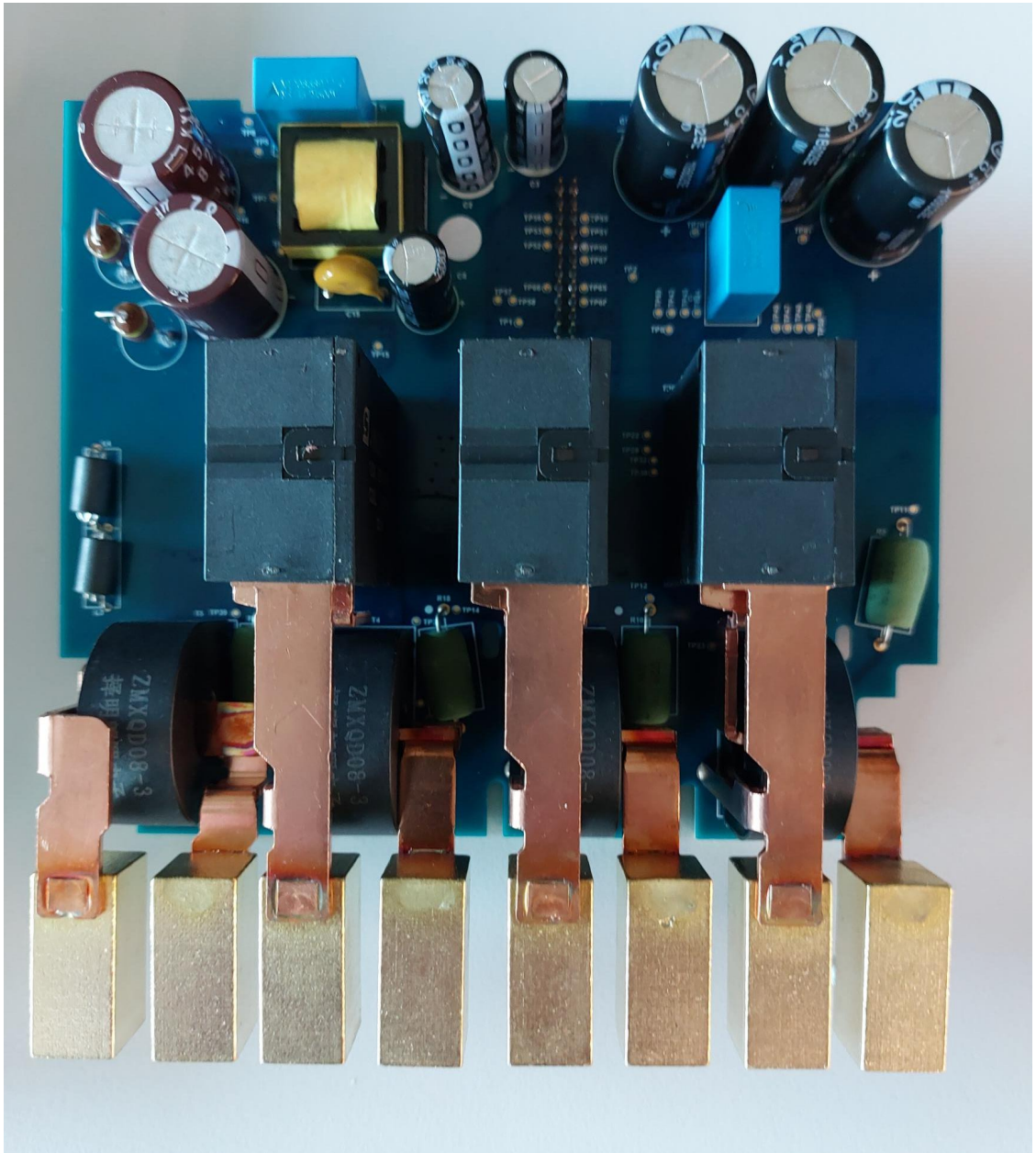
Inside- PCB top board





Inside- PCB bottom board

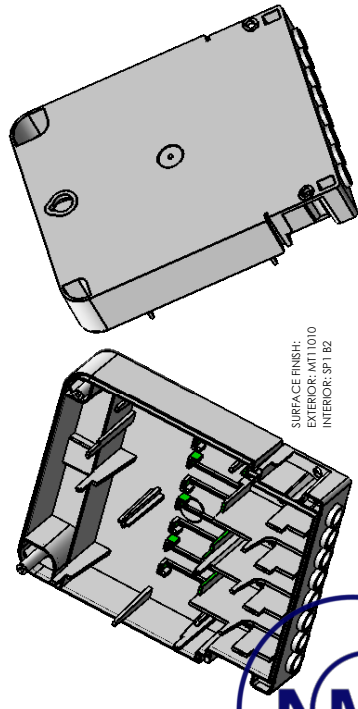
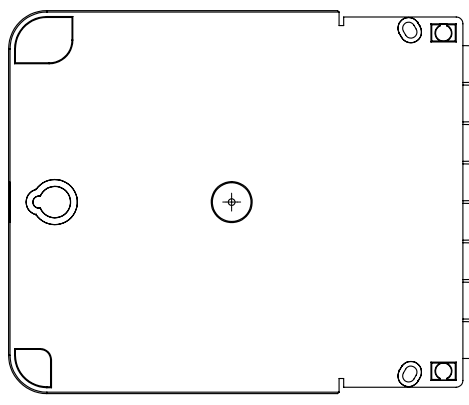
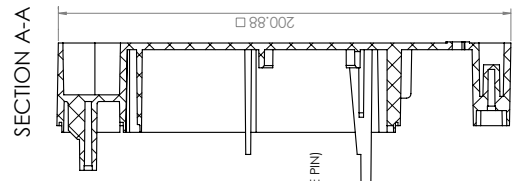
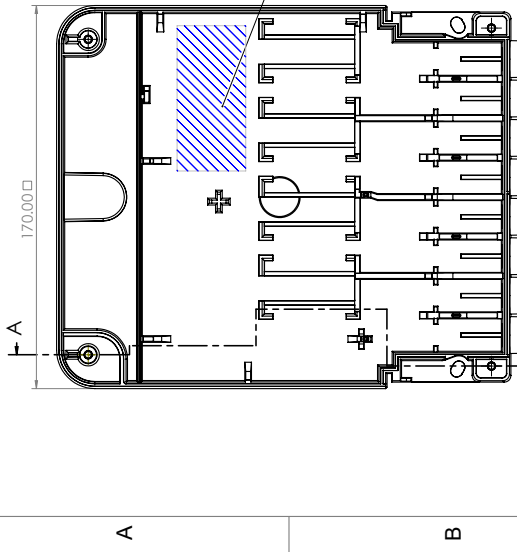




Inside- CT-Relay-Neutral (PCB bottom board)



1 2 3 4 5 6



SURFACE FINISH:
EXTERIOR: M11 010
INTERIOR: SPT 62

GENERAL NOTES:

- ALL DIMENSIONS SHOWN ON THIS DRAWING MUST BE INSPECTED AND DOCUMENTED IN A FIRST ARTICLE INSPECTION REPORT (FAI). 5 OFF EACH PART REQUIRE FAI FOR EACH CAVITY.
- ALL PARTS TO BE FREE FROM BURRS, FLASH AND SURFACE CONTAMINATION. NO SURFACE MARKS OR BLEMISHES PERMISSIBLE ON EXTERNAL SURFACES.
- RO.2MM MAXIMUM PERMITTED TO ALL CORE SIDE EDGES AND FILLERS UNLESS OTHERWISE SPECIFIED.
- EJECTOR MARKS MUST BE SUB-FLUSH TO 0.15MM.
- DIMENSIONS WITH A SQUARE SYMBOL (□) ARE CRITICAL TO QUALITY (CTQ) AND MUST HAVE A Cpk 1.67 OR HIGHER. CTQ DIMENSIONS SHOULD ALSO BE USED FOR STATISTICAL PROCESS CONTROL (SPC).
- PART SHALL BE SUITABLY PROTECTED TO PREVENT DAMAGE OCCURRING DURING SHIPPING.

MATERIAL NOTES:

- GLOW-WIRE TEST 960°C 1MM IEC 60695-2-11
- MIN. HDT 135°C 1.8MPa ISO-75-2
- NO RECYCLED MATERIAL TO BE USED
- UV-RESISTANT FI - UL 746C
- ROHS AND REACH COMPLIANT

2D Ver.	DESCRIPTION	BY	DATE	ECN No.
2	COMPLIANT TO BS 7856; RELAY WALL; VT cage; upper PCB post; SLS feedback	PCC	10/05/21	
3	ADDITIONAL RELAY HOLDER FOR FUTURE PROOF; ADJUST RELAY RIBS	PCC	17/05/21	
4	ADJUST RELAY HOLDER TO ACCOMMODATE DFM FROM RELAY SUPPLIER	PCC	02/06/21	
5	ADJUST RELAY HOLDER AND RESISTOR WALL TOLERANCE	PCC	03/06/21	

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ALL MATERIALS/PROCESSES ROHS COMPLIANT

SURFACE FINISH: SEE DRAWING

MATERIAL: SABIC 3412ECR

ALL DIMENSIONS ARE IN MILLIMETRES.

3D DATA IS MASTER AND FEATURES WITHOUT TOLERANCES OR DIMENSIONS SHOULD CONFORM TO TOLERANCES:
0 TO 6MM: ±0.05MM
6.01 TO 30MM: ±0.10MM
30.01 TO 90MM: ±0.15MM
90.01 TO 150MM: ±0.20MM
150.01 & ABOVE: ±0.25MM

DRAFTED BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
PCC	PCC	TN	TN	03/06/2021

EDMI
EDMI EUROPE LIMITED
1 Gosforth Park Avenue, Gosforth Business Park, Newcastle upon Tyne, NE12 8EG

TITLE
BASE EG-30A

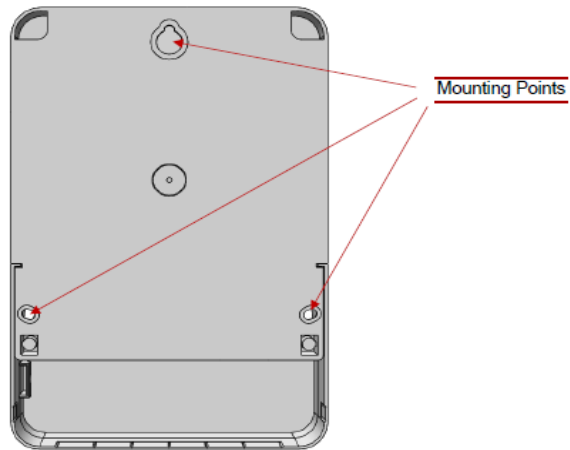
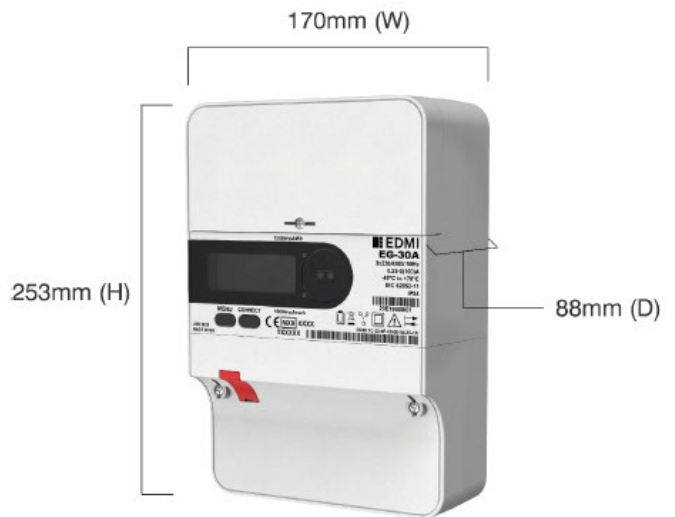
3RD ANGLE PROJECTION

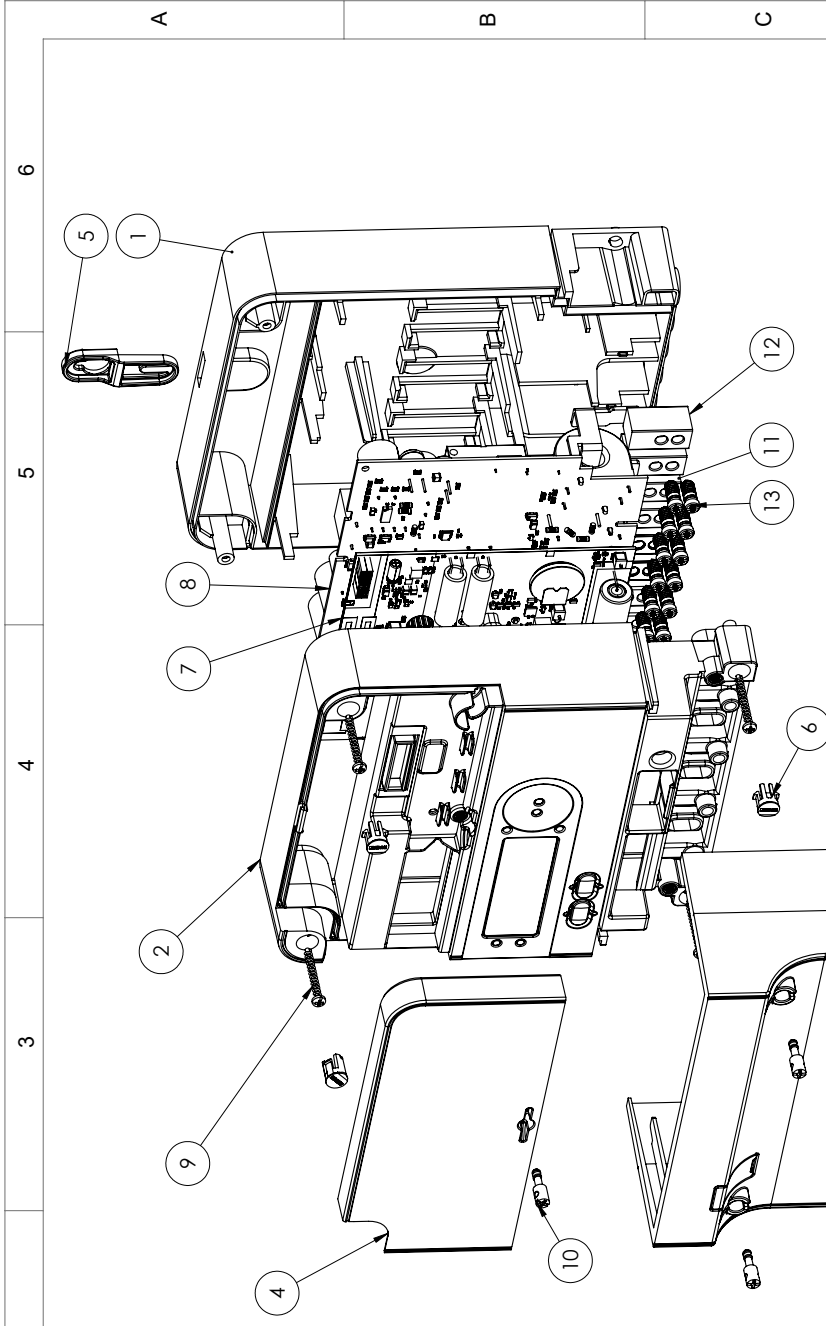
DRAWING NO. **325-00078**

SCALE: 1:2 SHEET: 1 of 1 3D MODEL: 325-00078 BASE EG-30A

FOR DRAWING VERSION SEE TABLE SHEET SIZE A3







ITEM NO.	PART NUMBER/DESCRIPTION	QTY.
1	325-00078 BASE EG-30A	1
2	820-00058 SHELL ASSEMBLY EG-30A	1
3	820-00098 TERMINAL COVER ASSEMBLY EG-30A	1
4	325-00077 COMMS COVER EG-30A	1
5	330-00047 TOP HANGER EG-30A	1
6	330-00024 PLUG ES-10B	4
7	820-00000 DISPLAY PCB EG-30A	1
8	820-00000 BASE PCB WC ASSEMBLY EG-30A	1
9	365-00013 SHELL SCREW ES-10B	4
10	365-00024 POZI TERMINAL COVER SCREW ES-30B	3
11	820-00000 RELAY - CT 30ASLDASM	4
12	820-00000 NEUTRAL CT AUS ASSEMBLY EG-30A	1
13	365-00023 POZI M6 GRUB SCREW	16

2D Ver.	DESCRIPTION	BY	DATE	ECN No.
1	INITIAL RELEASE	PCC	08/04/21	
2	UPDATED WITH LATEST MECH	PCC	10/05/21	
3	UPDATE WITH NEW BUTTON DESIGN	PCC	22/02/22	

EDMI EDMI EUROPE LIMITED
 Form 1, 17 Bartley Wood Business Park, Bartley Way, Hook, Hampshire, RG27 9XA

TITLE
 MAIN ASSEMBLY EG-30A

3RD ANGLE PROJECTION
 DRAWING NO. 810-00018

SCALE:
 1:10

SHEET: 1 of 1

3D MODEL: 810-00018 MAIN ASSEMBLY EG-30A

FOR DRAWING VERSION SEE TABLE
 SHEET SIZE A3

ALL DIMENSIONS ARE IN MILLIMETRES.

3D DATA IS MASTER AND FEATURES WITHOUT TOLERANCES OR DIMENSIONS SHOULD CONFORM TO TOLERANCES:

0 TO 6MM: ±0.05MM	6.01 TO 30MM: ±0.10MM
30.01 TO 90MM: ±0.15MM	90.01 TO 150MM: ±0.20MM
150.01 & ABOVE: ±0.25MM	

DRAFTED BY	PCC	10/05/21
DESIGNED BY	PCC	10/05/21
CHECKED BY	MM	22/02/2022
APPROVED BY	MM	22/02/2022

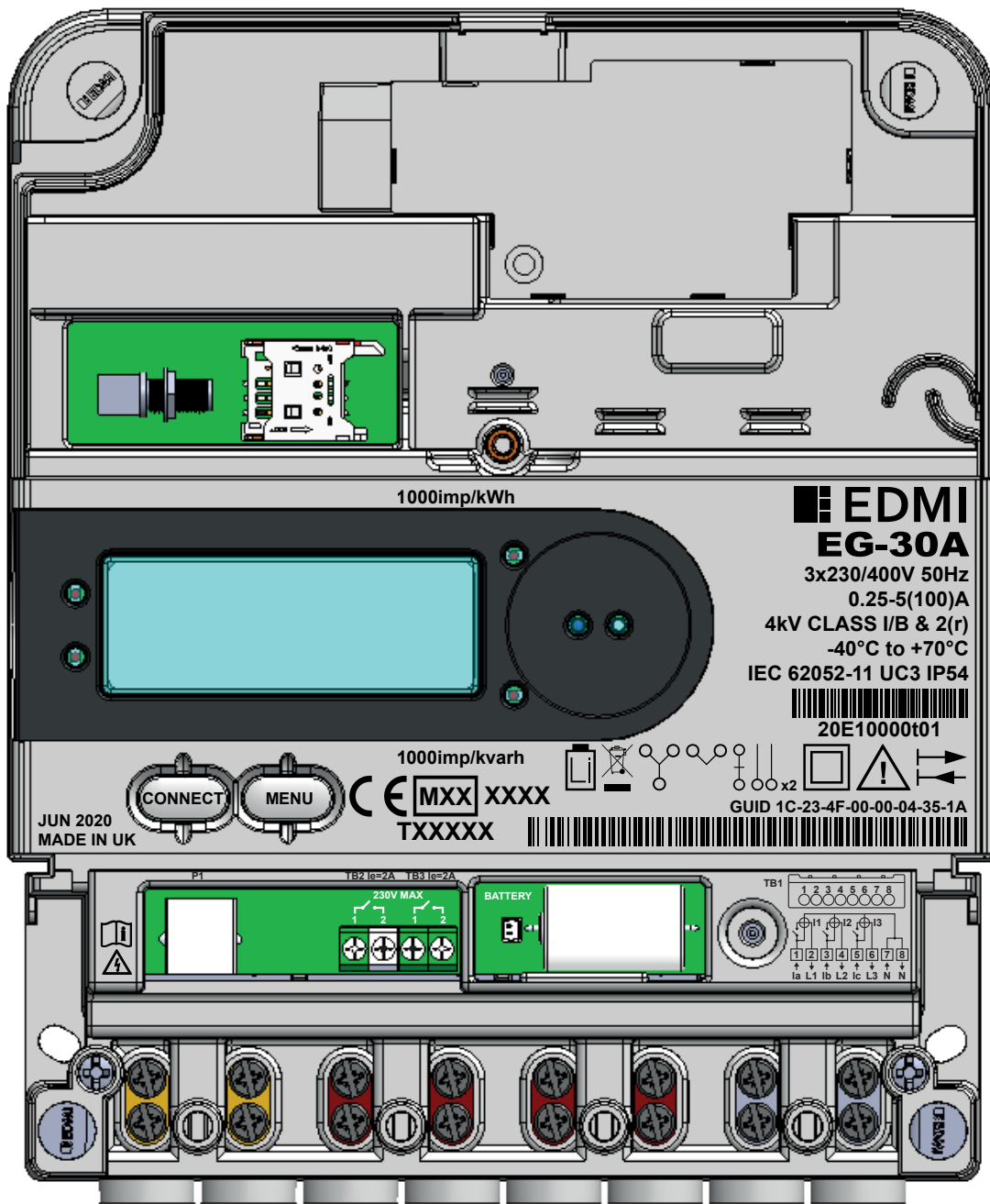
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ALL MATERIALS/PROCESSES RoHS COMPLIANT

SURFACE FINISH: -

MATERIAL: -





Event Code	Name	Description	Standard Event Log	Fraud Detection Log	Disconnector Control Log	M-Bus Event Log	M-Bus Control Log 1	M-Bus Control Log 2	M-Bus Control Log 3	M-Bus Control Log 4	Power Quality Event Log	Communication Log	Communication Detail Log	Notes
1	Power Down	Indicates a complete power down of the device. Please note that this is related to the device and not necessarily to the network.	x											
2	Power Up	Indicates that the device is powered again after a complete power down.	x											
3	Daylight saving time enabled or disabled	Indicates the regular change from and to daylight saving time. The time stamp shows the time before the change. This event is not set in case of manual clock changes and in case of power failures.	x											
4	Clock adjusted (old date/time)	Indicates that the clock has been adjusted. The date/time that is stored in the event log is the old date/time before adjusting the clock.	x											
5	Clock adjusted (new date/time)	Indicates that the clock has been adjusted. The date/time that is stored in the event log is the new date/time after adjusting the clock.	x											
6	Clock invalid	Indicates that clock may be invalid, i.e. if the power reserve of the clock has exhausted. It is set at power up.	x											
9	TDU activated	Indicates that the passive TDU has been activated.	x											
10	Error register cleared	Indicates that the error register was cleared.	x											
11	Alarm register cleared	Indicates that the alarm register was cleared.	x											
12	Program memory error	Indicates a physical or a logical error in the program memory.	x											
13	RAM error	Indicates a physical or a logical error in the RAM.	x											
14	NV memory error	Indicates a physical or a logical error in the non-volatile memory.	x											
15	Watchdog error	Indicates a watch dog reset or a hardware reset of the microcontroller.	x											
16	Measurement system error	Indicates a logical or physical error in the measurement system.	x											
17	Firmware ready for activation	Indicates that the new firmware has been successfully downloaded and verified, i.e. it is ready for activation.	x											
18	Firmware activated	Indicates that a new firmware has been activated.	x											
19	Passive TDU programmed	The passive structures of TDU or a new activation date/time were programmed.	x											
21	End of non-periodic billing interval	Indicates the end of a non-periodic billing interval.	x											
40	Terminal cover removed	Indicates that the terminal cover has been removed.	x											
41	Terminal cover closed	Indicates that the terminal cover has been closed.	x											
42	Strong DC field detected	Indicates that a strong magnetic DC field has been detected.	x											
43	No strong DC field anymore	Indicates that the strong magnetic DC field has disappeared.	x											
44	Meter cover removed	Indicates that the meter cover has been removed.	x											
45	Meter cover closed	Indicates that the meter cover has been closed.	x											
46	Association authentication failure (n time failed authentication)	Indicates that a user tried to gain LIS access with wrong password (intrusion detection) or HES access challenge processing failed n-times.	x											
47	One or more parameters changed		x											
48	Global key(s) changed	One or more global keys changed.	x											
49	Decryption or authentication failure (n time failure)	Decryption with currently valid key (global or dedicated) failed to generate a valid APDU or authentication tag.	x	x										
50	Reply attack	Received frame counter value less or equal to the last successfully received frame counter in the received APDU. Event signals as well the situation when the DC has lost the frame counter synchronization.	x											
51	FW verification failed	Indicates the transferred firmware verification failed i.e. cannot be activated.	x											
52	Unexpected consumption	Indicates consumption is detected at least on one phase when the disconnector has been disconnected.	x											
59	Disconnector ready for manual reconnection	Indicates that the disconnector has been set into the Ready_for_reconnection state and can be manually reconnected.	x	x										
60	Manual disconnection	Indicates that the disconnector has been manually disconnected.	x	x										
61	Manual connection	Indicates that the disconnector has been manually connected.	x	x										
62	Remote disconnection	Indicates that the disconnector has been remotely disconnected.	x	x										
63	Remote connection	Indicates that the disconnector has been remotely connected.	x	x										
64	Local disconnection	Indicates that the disconnector has been locally disconnected (i.e. via the limiter or current supervision monitors).	x	x										
65	Limiter threshold exceeded	Indicates that the limiter threshold has been exceeded.	x	x										
66	Limiter threshold ok	Indicates that the monitored value of the limiter dropped below the threshold.	x	x										
67	Limiter threshold changed	Indicates that the limiter threshold has been changed.	x	x										
68	Disconnect/Reconnect failure	Indicates that a failure of disconnection or reconnection has happened (control state does not match output state).	x	x										
69	Local reconnection	Indicates that the disconnector has been locally re-connected (i.e. via the limiter or current supervision monitors).	x	x										
70	Supervision monitor 1 threshold exceeded	Indicates that the supervision monitor threshold has been exceeded.	x	x										
71	Supervision monitor 1 threshold ok	Indicates that the monitored value dropped below the threshold.	x	x										
76	Undervoltage L1	Indicates undervoltage on at least L1 phase was detected.	x								x			
79	Overvoltage L1	Indicates overvoltage on at least L1 phase was detected.	x								x			
82	Missing voltage L1	Indicates that the voltage on at least L1 phase has fallen below the Umin threshold for longer than the time delay.	x								x			
85	Voltage L1 normal	Indicates that the mains voltage is in normal limits again, e.g. after overvoltage.	x								x			
91	Current Reversal	Indicates unexpected energy export (for devices which are configured for energy import measurement only).	x								x			
92	Bad Voltage Quality L1	Indicates that during each period of one week 95 % of the 10 min mean r.m.s. values of the supply voltage are within the range of $U_n \pm 10\%$ and all 10 min mean r.m.s. values of the supply voltage shall be within the range of $U_n \pm 100\% - 150\%$. (acc. EN50160:2010, section 4.2.2)	x								x			
95	Disconnector activity calendar activated	The passive disconnector activity calendar has been activated.	x											
96	Disconnector passive activity calendar programmed	The passive disconnector activity calendar has been programmed, i.e. it is ready for activation.	x		x									
97	Load Mgmt activity calendar activated	The passive load management activity calendar has been activated.	x											
98	Load Mgmt passive activity calendar programmed	The passive load management activity calendar has been programmed, i.e. it is ready for activation.	x											
109	LPICAP_1 enabled	Capturing of load profile 1 has been enabled.	x											
117	LPICAP_1 disabled	Capturing of load profile 1 has been disabled.	x											
118	LPICAP_2 enabled	Capturing of load profile 2 has been enabled.	x											
119	LPICAP_2 disabled	Capturing of load profile 2 has been disabled.	x											
141	Modem initialization failure	Modem initialization failure.										x		
143	SIM Card ok	SIM Card ok.										x		
146	PDP context established	PDP context established.										x		
155	User initialization failure	User initialization failure.										x		
200	Device commissioned	Device is registered and provisioned into HES.	x											
201	Device de-commissioned	Device is de-registered from HES.	x											
204	Meter Configuration changed	Meter's configuration checksum modified. This is reserved for future implementation and is out of scope of this specification.	x											
230	Missing neutral occurred			x										
231	Missing neutral restored			x										
232	Neutral disturbance Occurred			x										
233	Neutral disturbance restored			x										
254	Load profile cleared	Any of the profiles cleared. NOTE: If it appears in Standard Event Log then any of the E-load profiles was cleared. If the event appears in the M-Bus Event Log then one of the M-Bus load profiles was cleared.	x	x	x	x	x	x	x	x	x	x	x	
255	Event log cleared	Indicates that the event log was cleared. This is always the first entry in an event log. It is only stored in the affected event log.	x	x	x	x	x	x	x	x	x	x	x	



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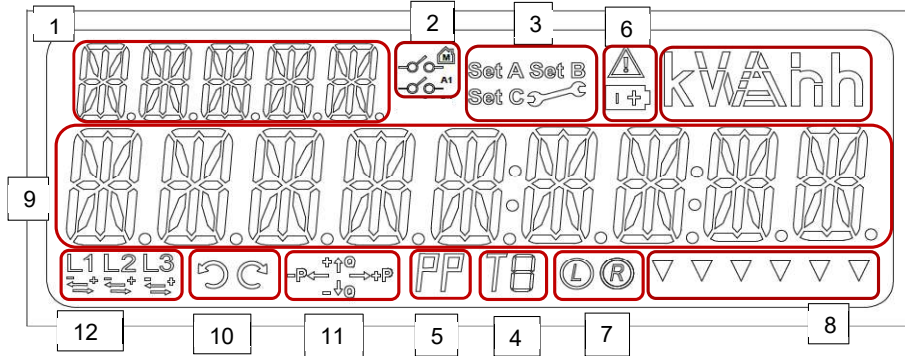
12474/0-06
1 of 1

10 The Liquid Crystal Display (LCD)

The LCD is the main user interface for the meter (Figure 10-1). Its purpose is to provide feedback during installation, manufacture, calibration, diagnostics issues and simply for end user reference. The LCD features 9 main starburst digits alongside a 5-digit labelling field above.

The LCD has several fixed segments to indicate a range of functions. For low light conditions, the LCD has a backlight, which comes on when a button is pressed, unless configured not to do so at manufacture.

Figure 10-1: Liquid Crystal Display



Section	Description
1	5-character label, shows: <ul style="list-style-type: none"> Short OBIS code
2	Relay state icons. M for main disconnect relay, A1 for ALCS. Operating states: <ul style="list-style-type: none"> M icon ON: Main supply has been disconnected A1 icon ON: ALCS 1 Switch is Open.
3	The different sets indices the zones within the menu structure. By default (configurable), Set A shows the Per Phase screens. Set B shows the TOU screens, Set C shows the Info screens and an icon for Engineering Screens.
4	The tariff rate indicator T1-T8 will show the currently active tariff.
5	Prepayment Mode indicator - The PP icon will be lit the meter is operating in prepayment mode
6	Internal battery low indicator & Alert indicator
7	L = shows local communication or login on the local port, either P1 or optical. R = shows remote WAN communication
8	Enunciators. (For future use)
9	Main character array. Shows all figures for billing, information and content for messages
10	Phase Sequence indication – Indicates the phase order of the input phases



11	The arrows icons are lit depending on the majority direction of Power flow across all 3 phases, where: +P = Import Kw - P = Export Kw +Q = Import kVar (Lag) -Q = Export kVar (Lead)
12	L1, L2, L3 indicate which phases are active in the meter. <ul style="list-style-type: none"> • L1 represents phase A • L2 represents phase B • L3 represents phase C Below each phase the direction of the current for each phase is shown.

11 The Pushbuttons & User Interface

The EG-30A has two pushbuttons for installers/customers to interact with the meter. The left button allows the user to navigate the user interface. The right button is used to locally enable or disable the main supply or ALCS.

11.1 Navigation Button

The function of the navigation is determined by the amount of time the button is pressed.

Short Press (< 1second)	Medium Press (>= 1 second)	Long press > 5 seconds
Stop automatic circular display & Scroll right	Goes to next set.	OK to Confirm request

Note: After a period of inactivity, the meter will revert to the main screen.

Full details about usage of the user interface can be read in the EG30A Product Guide.

11.2 Connect/Disconnect Button

When the supply is connected (mains disconnect icon not lit), To disconnect:

1. On the meter, press the connect push-button.
2. Then press the Connect push-button for 6 seconds.
3. To confirm the disconnection, press the Connect push-button for a further 6 seconds. The relays will disconnect, and the mains disconnect icon will turn on.

When the supply is connected (mains disconnect icon lit) To connect:

1. On the meter, press the Connect push-button
2. Then press the Connect push-button for 6 seconds.
3. To confirm the disconnection, press the Connect push-button for a further 6 seconds. The relays will connect, and the mains disconnect icon will turn off.



Short Press (< 1second)	Medium Press (>= 1 second)	Long press > 5 seconds
Scroll right	Return to Parent Menu	OK/ Confirm the requested function for Connect or Disconnect

12 User Interface Displays

Note: Not all screens may be available on meters pre mass production

The meter's menu will start with the default screens. The Medium Press function will allow the user to move between Sets (e.g. Default, Set A, Set B, Set C) Pressing Short Press navigates between sub menu headings and wraps around back to the beginning.

12.1 The Default Screen

The main screen will display the most prominent information at-a-glance. The screen will auto cycle through the configured screens with a 5 second delay between each.

Display will revert to this default screen when no buttons have been pressed for 1 minute. The Default screen will display the Registers as 9 digits, in the appropriate unit. The Top row shall display the short OBIS code {c.d.e}.

The main screen displays basic information at-a-glance, cycling through:

(*) = The import and export values displayed in this screen are deemed to be legally relevant measurement data, according to MID metering regulations.

Total Active Import (*)

Display's the total vector summation Active Import .

1.	8.	0							kWh
	3	4	5	6	7	8	9		

Total Active Export (*)

Display's the total vector summation of Active Export.

2.	8.	0							kWh
	3	4	5	6	7	8	9		



Total Reactive Import (*)

Display's the total vector summation Reactive Import

3.	8.	0					kVAr
			1	2	3	4	5

Total Reactive Export (*)

Display's the total vector summation Reactive Export.

4.	8.	0					kVAr
			1	2	3	4	5

Button Press	Function
Short Press	Manually scroll through information.
Medium Press	Go to Set A Menu
Long Press	No Effect

12.2 Set A Screens

The Set A screens will auto cycle through the configured screens with a 5 second delay between each. The following shows the available screens in Set A menu:



Display Item	DLMS OBIS Code	Unit
Active import phase L1	1-0:21.8.0.255	kWh
Active import phase L2	1-0:41.8.0.255	kWh
Active import phase L3	1-0:51.8.0.255	kWh
Active export phase L1	1-0:22.8.0.255	kWh
Active export phase L2	1-0:42.8.0.255	kWh
Active export phase L3	1-0:52.8.0.255	kWh
Actual voltage phase L1	1-0:32.7.0.255	V
Actual voltage phase L2	1-0:52.7.0.255	V
Actual voltage phase L3	1-0:72.7.0.255	V
Actual current phase L1	1-0:31.7.0.255	A
Actual current phase L2	1-0:51.7.0.255	A
Actual current phase L3	1-0:71.7.0.255	A
Actual active positive power	1-0:1.7.0.255	kW
Actual active negative power	1-0:2.7.0.255	kW
Actual reactive positive power	1-0:3.7.0.255	kW
Actual reactive negative power	1-0:4.7.0.255	kW
Power Factor L1	1-0:33.7.0.255	
Power Factor L2	1-0:53.7.0.255	
Power Factor L3	1-0:73.7.0.255	
Frequency	1-0:14.7.0.255	Hz
Active Power Phase L1	1-0:21.7.0.255	kW
Active Power Phase L2	1-0:41.7.0.255	kW
Active Power Phase L3	1-0:61.7.0.255	kW

(*) = The import and export values displayed in this screen are deemed to be legally relevant measurement data, according to MID metering regulations.



The following functions are available in Set A Menu:

Button Press	Function
Short Press	Manually scroll through information.
Medium Press	Go to Set B Menu
Long Press	No Effect

12.3 Set B Screens

The Set B screens will auto cycle through the configured screens with a 5 second delay between each. The following shows the available screens in the Set B menu:

Display Item	DLMS OBIS code	Unit
Active energy import (+A) rate 1	1-0:1.8.1.255	kWh
Active energy import (+A) rate 2	1-0:1.8.2.255	kWh
Active energy import (+A) rate 3	1-0:1.8.3.255	kWh
Active energy import (+A) rate 4	1-0:1.8.4.255	kWh
Active energy export (-A) rate 1	1-0:2.8.1.255	kWh
Active energy export (-A) rate 2	1-0:2.8.2.255	kWh
Active energy export (-A) rate 3	1-0:2.8.3.255	kWh
Active energy export (-A) rate 4	1-0:2.8.4.255	kWh
Demand Register 1 - Active energy import (+A)	1-0:1.4.0.255	KW
Demand Register 6 - Active energy export (-A)	1-0:2.4.0.255	kW

The following functions are available in Set B Menu:

Button Press	Function
Short Press	Manually scroll to different Menus.
Medium Press	Go to Set C Menu
Long Press	No effect



12.4 Set C Screens

The Set C screens are not configurable and will auto cycle through the configured screens shown below with a 5 second delay between each.

12.4.1 Time

Display Local time taking into account DST

0.	9.	1				
	1	8:	4	2:	0	1

12.4.2 Date

Display Local date taking into account DST

0.	9.	2				
	2	2.	0	8.	1	8

12.4.3 DIAL

The Dial screen is used for the in-service accuracy testing by suppliers. The number of decimal places is fixed at 3 and allows for engineers to witness the accumulation of energy on a smaller scale than is provided on the main default screen.

Note: If the active import register reading is greater than 999999999, then the right most digits will be hidden.

The import and export values displayed in this screen are deemed to be legally relevant measurement data, according to MID metering regulations.

1.8.0-d							kWh
	2	3	4	5	6	7	8 9

2.8.0-d							kWh
	2	3	4	5	6	7	8 9

12.4.4 Software

The Software screen displays the Legally Relevant Software followed by the legally relevant integrity check value.



```
S O F T
1 2 3 4 5 6 7 8. 1
```

12.4.5 Firmware

The Firmware screen displays Firmware Version identifier of the meter.

```
F I R M
0 1 7 8 A B C D E
```

(Remaining message: D1234567)

12.4.6 Configuration

The Configuration screen displays Configuration Version of the meter.

```
C O N F G
0 1 7 8 A B C D E
```

(Remaining message: D1234567)

12.4.7 RSRP

The RSRP menu displays the Reference Signal Received Power (RSRP).

```
R S R P
- 5 6 d B m
```

12.4.8 RSRQ

The RSRQ menu displays the Reference Signal Received Quality (RSRQ).

```
R S R Q
- 5 6 d B
```

The following functions are available in Set C Menu:

Button Press	Function
Short Press	Manually scroll to different Menus.
Medium Press	Go to Engineering menu (if applicable) or Default Menu
Long Press	No effect



12.5 Engineering Menu

The Engineering menu is available on the UI to allow a qualified installer access to options and information that should otherwise be unavailable to the end customer once the meter has been sealed.

Engineering menu items are completely hidden from the standard menus. Only once the terminal cover has been partially removed and the tamper micro switch activated can the following menu items be accessed.

Below describes the method in which the installer would gain access to the engineering menu (*assuming safe installation practice of installing the meter correctly with in-place tamper evident seals*).

Note: Normal installation procedure (all aspects of initialisation and commissioning successful) will not require any access to the engineering menu

1. Installer follows the initialisation and commission procedure on the meter.
2. An issue is found where access to the engineering menu is required
3. Physical tamper seal over the terminal or communication cover must be broken
4. Installer unscrews the terminal cover and releases it, activating the terminal/communications cover tamper switch.
5. The Engineering set (Icon lights up) includes the engineering menu functions.
6. Once all tasks have been performed and the meter doesn't need swapping out, installer replaces and screws on the terminal cover
7. Engineering set is dismissed once terminal cover tamper switch is depressed again
8. Once tamper switch is depressed again engineering menu disappears and becomes inaccessible
9. Physical tamper seals should be replaced.

LCD Screen

The functional of all LCD pixels can be validated via the LCD test screen. When test is performed, all segments of the LCD will be ON for 10 seconds then OFF for 3 seconds.

Button Press	Function
Short Press	Manually scroll to the next Screen
Medium press	Goes to Default Menu
Long Press	Test starts



ADT Screen

The Audit log menu contains information related to the firmware changes in the meter.

The menu displays two rows of the table to a maximum of 200 items. Pressing Short press will switch between the two tables at the same vertical position to be able to see the pertinent information followed by the corresponding date/time in the second table.

INFO shall display:

- L – for Local firmware download; or
- R – for remote firmware download; then either
- S – for firmware download success, full stop then the Legally Relevant software version; or
- F – for firmware download failure, full stop then the Legally Relevant software version shall be displayed as dashes
- 0000 – after completion of clearing the Audit log.

Most recent events will be placed at the top.

Button Press	Function
Short Press	Scroll up and down the table. Wrapped.
Medium Press	Goes to Default Menu
Long Press	Shows 'OK to confirm' then further long press Clear the Audit Log

13 Communications Interfaces

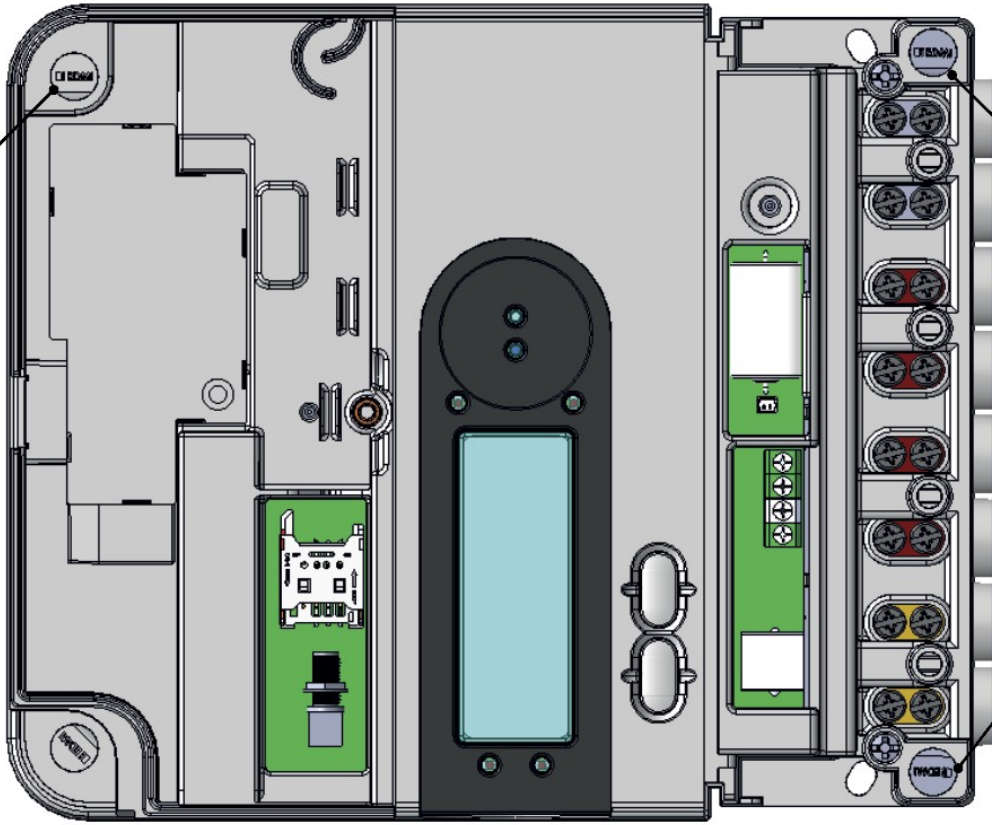
The EG-30A meter offers various communication interfaces to support both meter function and debugging.

- Optical Communication Interface – Allows local communication to the meter without breaking tamper seal.
- P1 HAN interface – Allows any applicable P1 interface devices to have a wired connected to the meter.
- Wired/ Wireless M-Bus – Will support up to 4 wired or wireless M-Bus devices.
- LTE-M1 (and or Mesh) – A LPWAN allowing connectivity for hard-to-reach locations whilst also providing high data speeds.
- LTE-NB1 – Another LPWAN which supports an increased range and low power consumption.

In addition to above the EG-30A features a pluggable sim to provide RF communications, as well as an additional interface to allow a modular modem to be equipped for any future use cases.

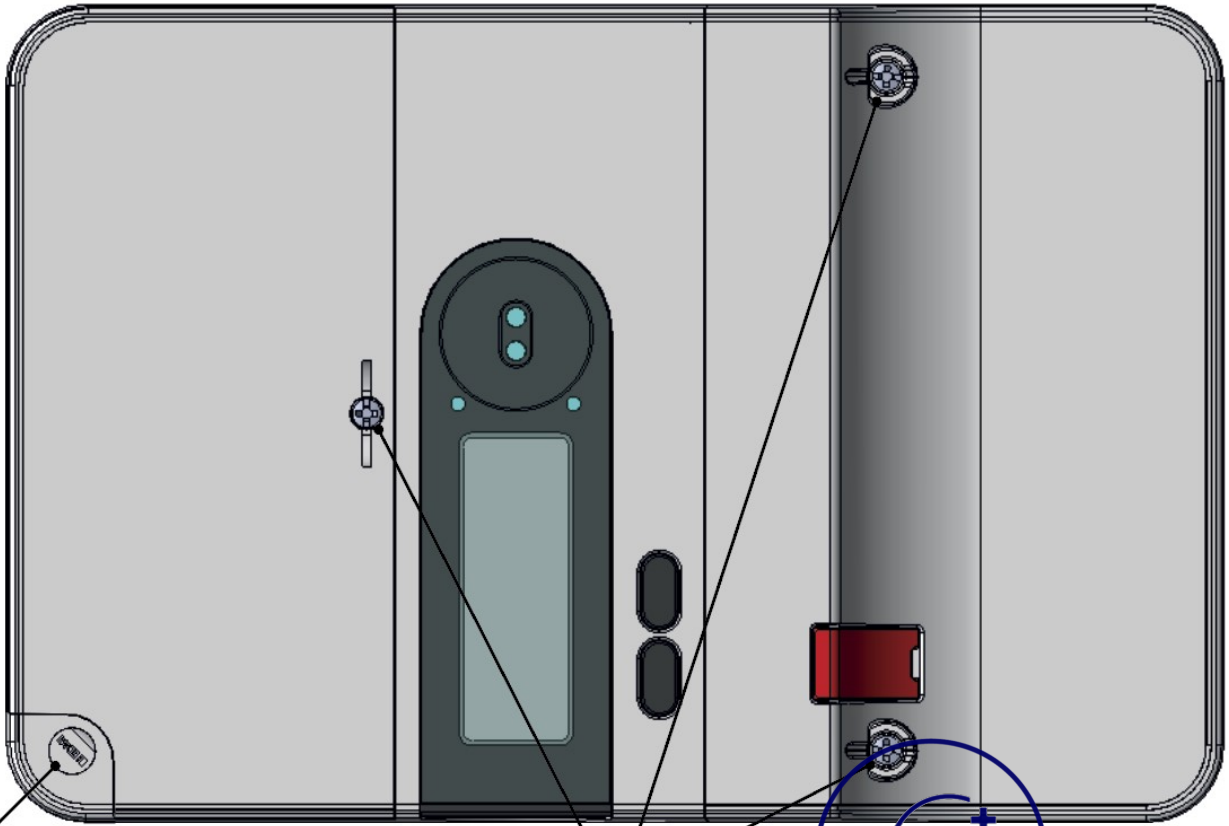


Metrology seal

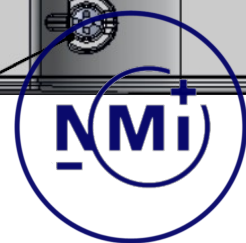


Metrology seal

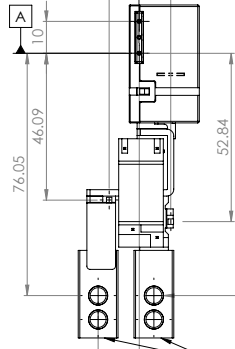
Metrology seal



Utility seals



9.34 10.01

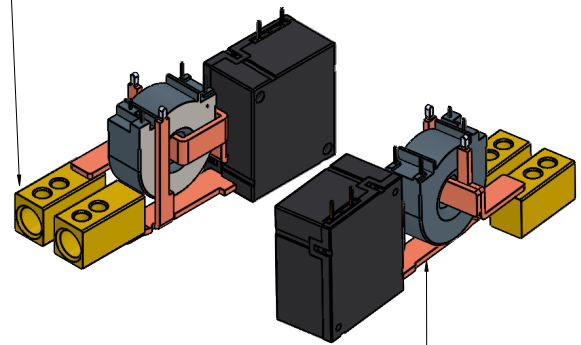


SWITCH STATE			
CONTACT POSITION	OPEN		CLOSE
COIL PIN	1	3	1 3
POLARITY	-	+	+ -

SINGLE COIL

M6 THRU
 $\checkmark \varnothing 6 \times 90^\circ$
 TYP. 4

100A TERMINAL MATL: BRASS HPb59-3



RELAY NOTES: BUS BAR MATL: COPPER C1100

- UC3 APPROVED
- Single Coil Latching
- RoHS AND REACH COMPLIANT
- RATED LOAD 120A 277VAC
- CONTACT MATERIAL AgSnO₂
- MAX. SWITCHING VOLTAGE 440VAC
- MAX. SWITCHING CURRENT 120A
- MAX. AC SWITCHING POWER: 27,700VA
- ELECTRICAL ENDURANCE 10,000 CYCLES
- MECHANICAL ENDURANCE 100,000 CYCLES
- INSULATION RESISTANCE 1,000MΩ (at 500VDC)
- AMBIENT TEMPERATURE: -40°C to +85°C
- AMBIENT HUMIDITY 98%RH, +40°C
- VIBRATION 1.5mm (DA), 10 to 55 Hz
- SHOCK RESISTANCE: FUNCTIONAL 10G; DESTRUCTIVE 100G
- WELDED JOINTS MUST BE ABLE TO WITHSTAND A PEELING FORCE IN THE PERPENDICULAR DIRECTION TO THE WELD JOINT OF 300N.

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ALL DIMENSIONS ARE IN MILLIMETRES.

3D DATA IS MASTER AND FEATURES WITHOUT TOLERANCES OR DIMENSIONS SHOULD CONFORM TO TOLERANCES:

0 TO 4MM:	±0.05MM
6.0 TO 30MM:	±0.10MM
30.01 TO 90MM:	±0.15MM
90.01 TO 150MM:	±0.20MM
150.01 & ABOVE:	±0.25MM

ALL MATERIALS/PROCESSES RoHS COMPLIANT

SURFACE FINISH: N/A

MATERIAL: SEE ANNOTATION

DRAFTED BY	PCC	11/05/2021
DESIGNED BY	PCC	11/05/2021
CHECKED BY		
APPROVED BY		

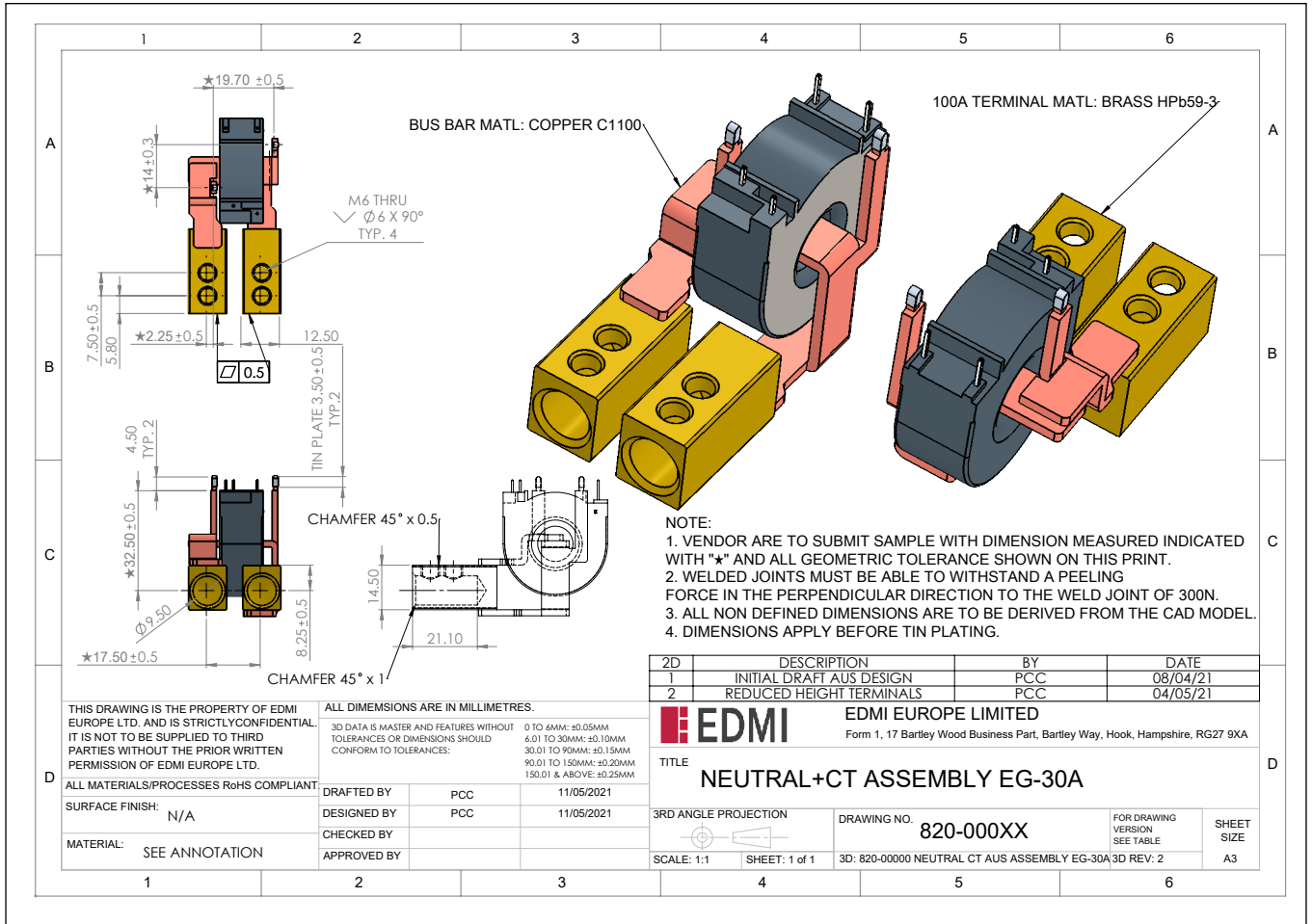
2D	DESCRIPTION	BY	DATE
1	INITIAL DRAFT WITH ANZ DESIGN	PCC	08/04/21
2	REDUCE HEIGHT TERMINALS	PCC	04/05/21

EDMI EDM I EUROPE LIMITED
 Form 1, 17 Bartley Wood Business Park, Bartley Way, Hook, Hampshire, RG27 9XA

TITLE
RELAY+CT ASSEMBLY EG-30A

3RD ANGLE PROJECTION	DRAWING NO. 820-000XX	FOR DRAWING VERSION SEE TABLE	SHEET SIZE
SCALE: 1:1 SHEET: 1 of 1	3D: 820-00000 RELAY - CT AUS ASSEMBLY EG-30A\$LDASM	3D REV: 2	A3





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 90.01 TO 150MM: ±0.20MM
 150.01 & ABOVE: ±0.25MM

ALL MATERIALS/PROCESSES RoHS COMPLIANT

SURFACE FINISH: N/A

MATERIAL: SEE ANNOTATION

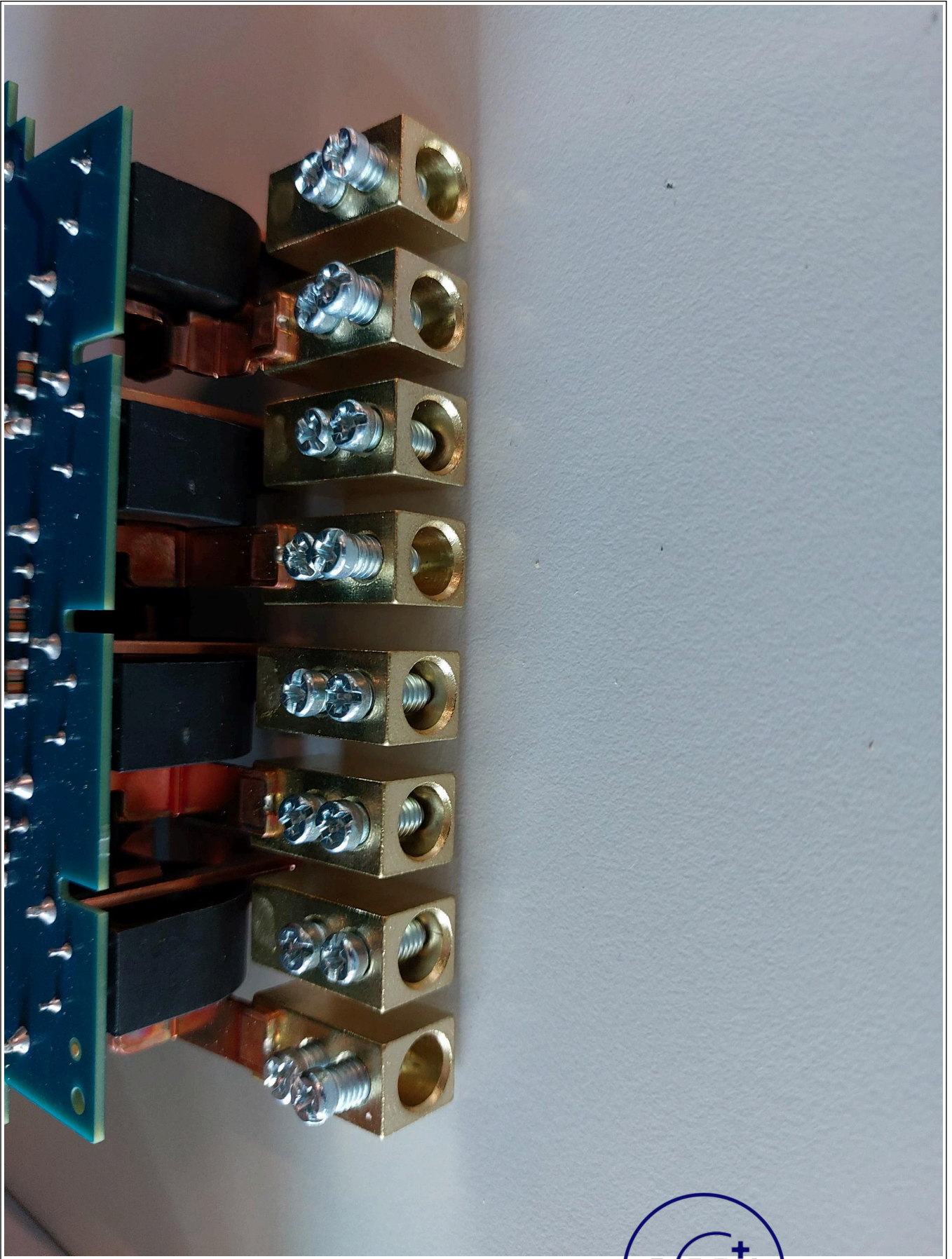
DRAFTED BY	PCC	11/05/2021
DESIGNED BY	PCC	11/05/2021
CHECKED BY		
APPROVED BY		


2D	DESCRIPTION	BY	DATE
1	INITIAL DRAFT AUS DESIGN	PCC	08/04/21
2	REDUCED HEIGHT TERMINALS	PCC	04/05/21

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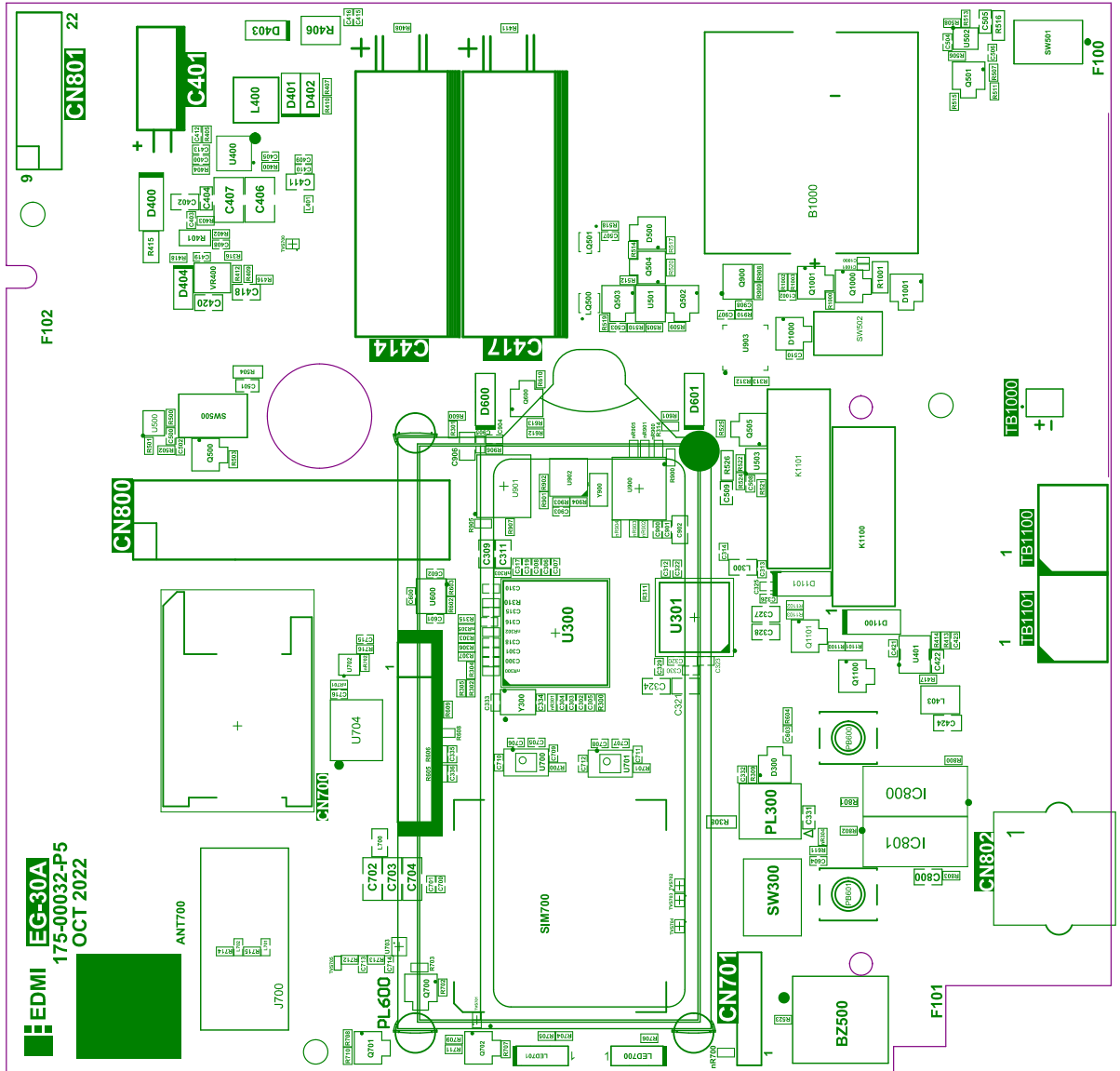
TITLE
NEUTRAL+CT ASSEMBLY EG-30A

3RD ANGLE PROJECTION	DRAWING NO. 820-000XX	FOR DRAWING VERSION SEE TABLE	SHEET SIZE
SCALE: 1:1	SHEET: 1 of 1	3D: 820-00000 NEUTRAL CT AUS ASSEMBLY EG-30A 3D REV: 2	A3



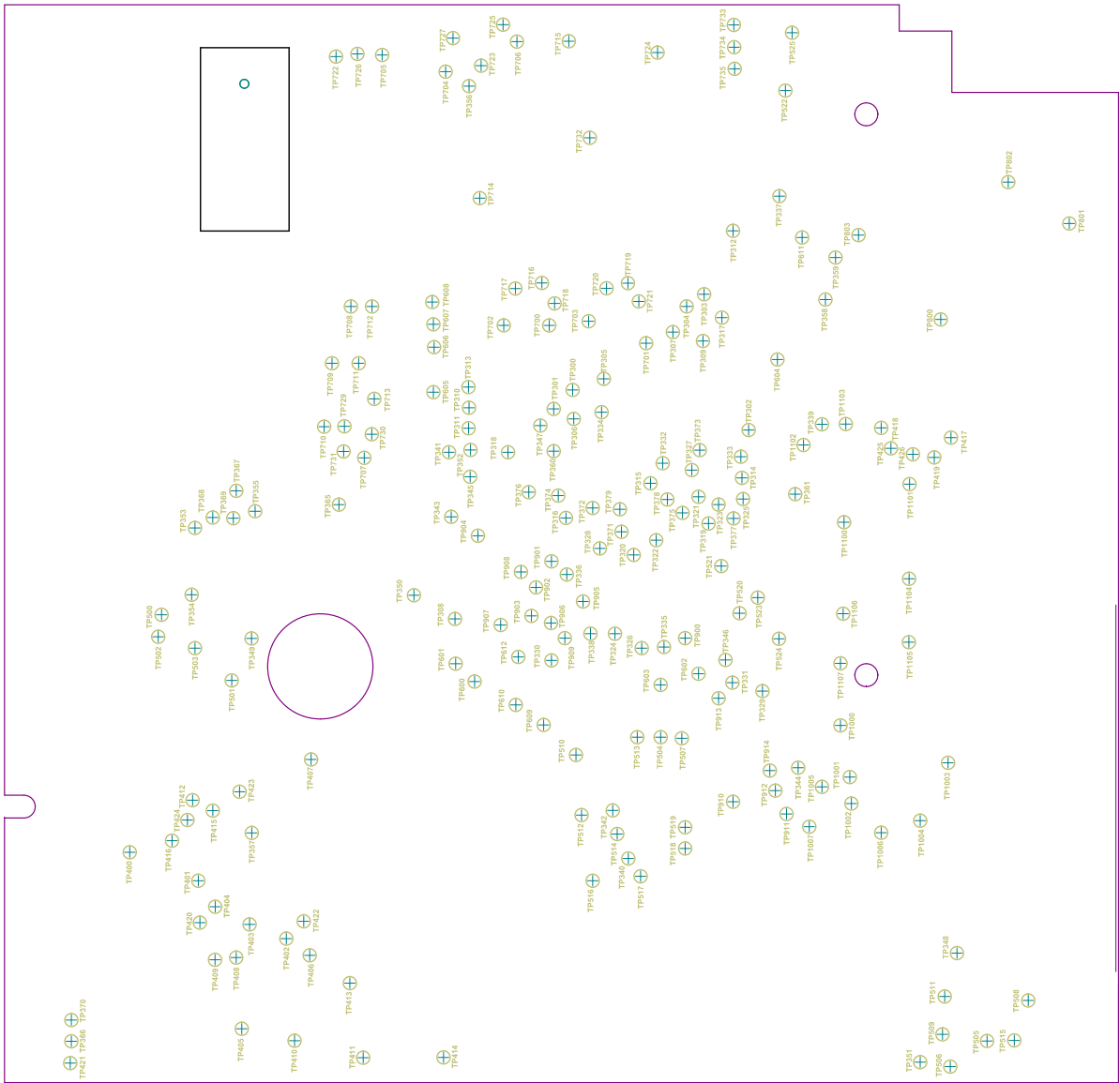
	Doc no	12474/0-10
	Page	1 of 2

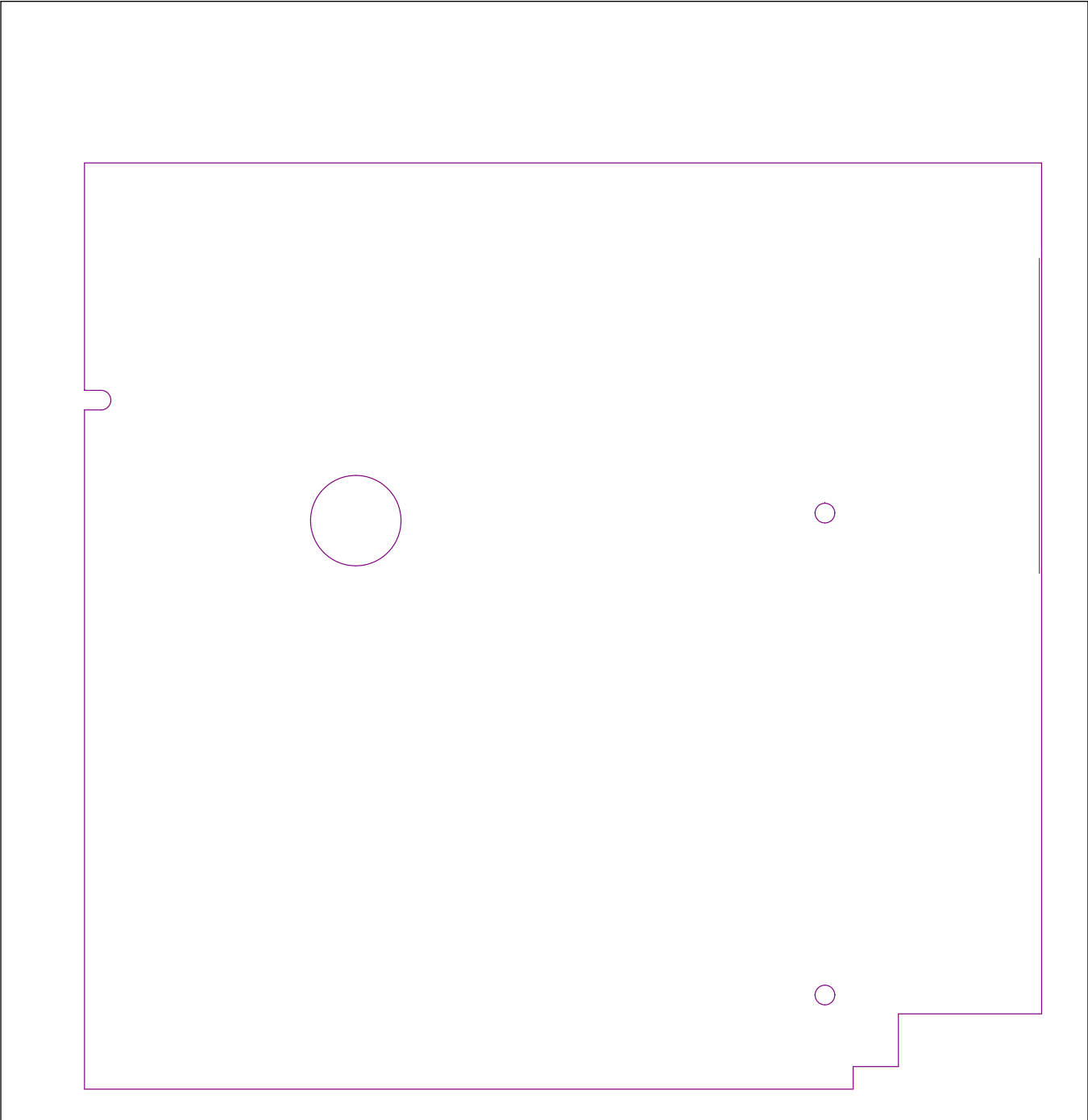


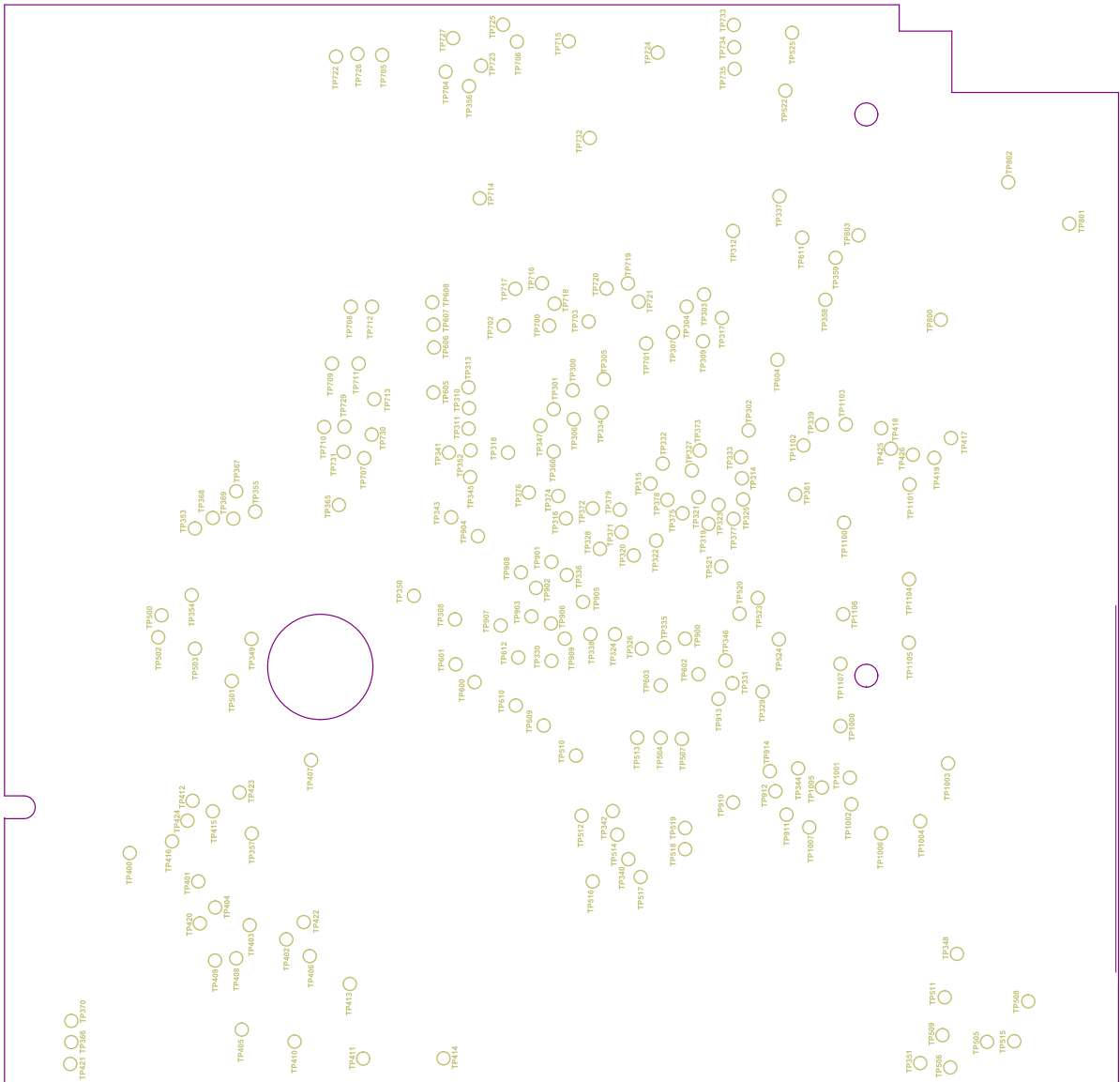


EDMI EG-30A
175-00032-P5
OCT 2022



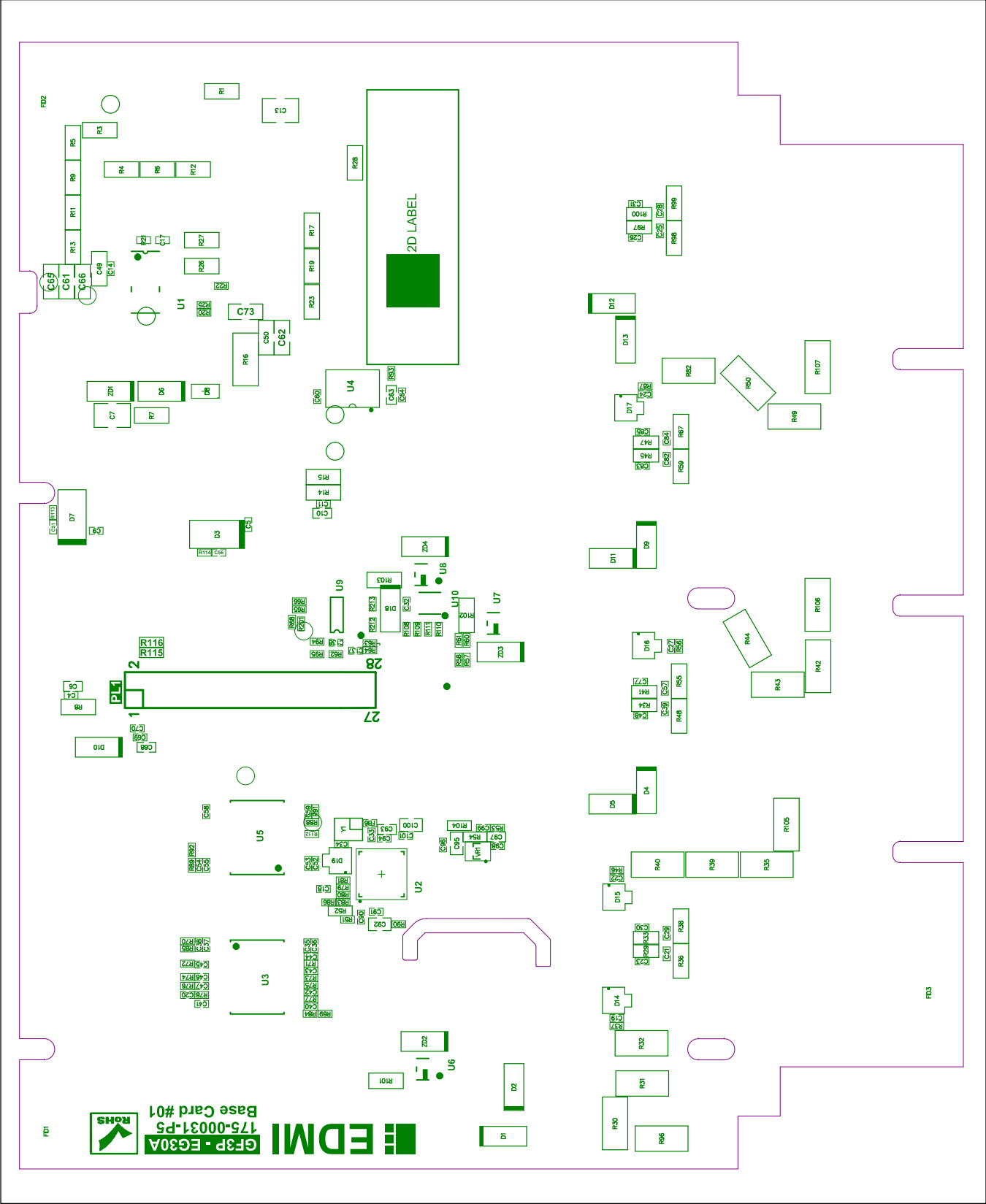


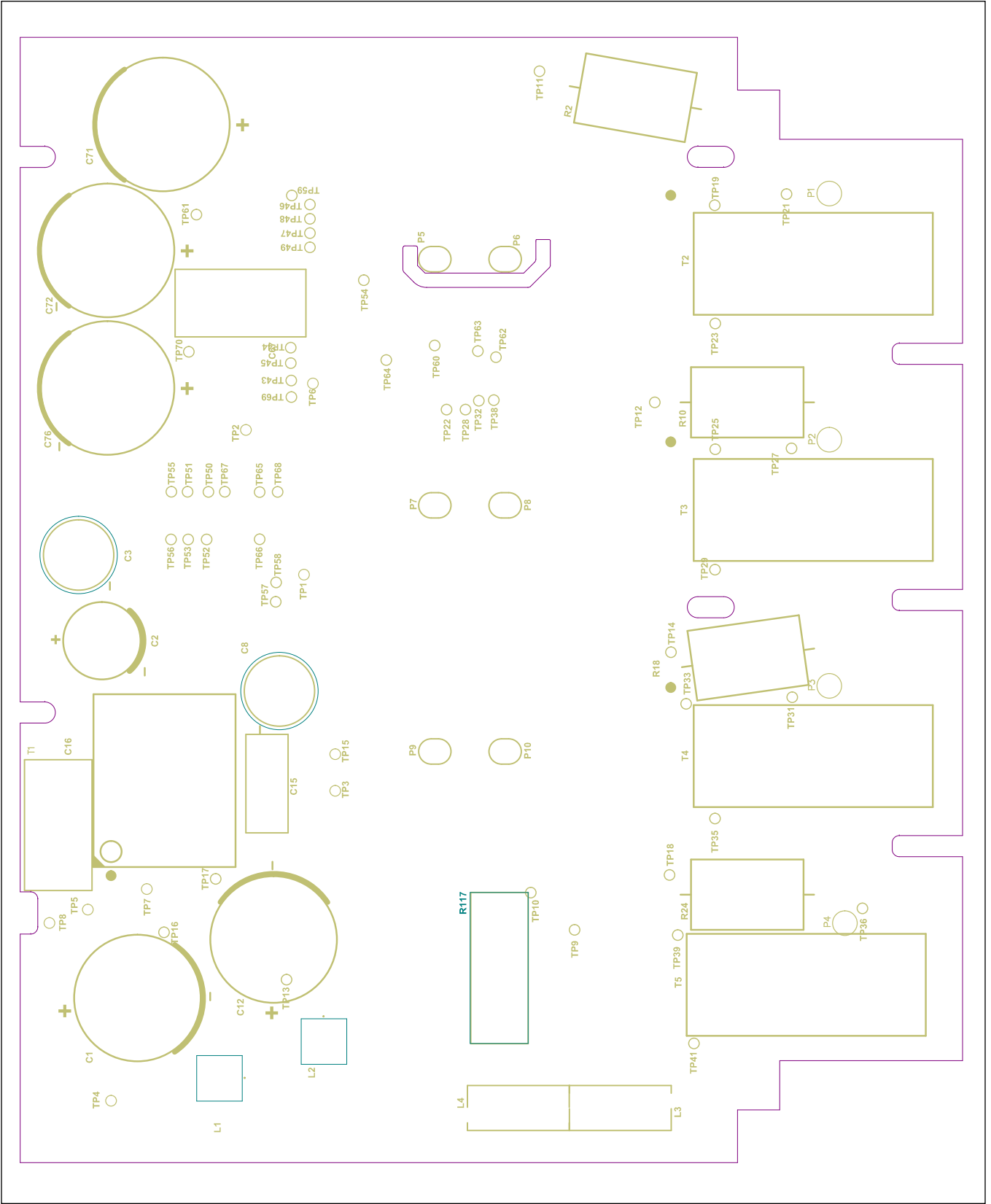


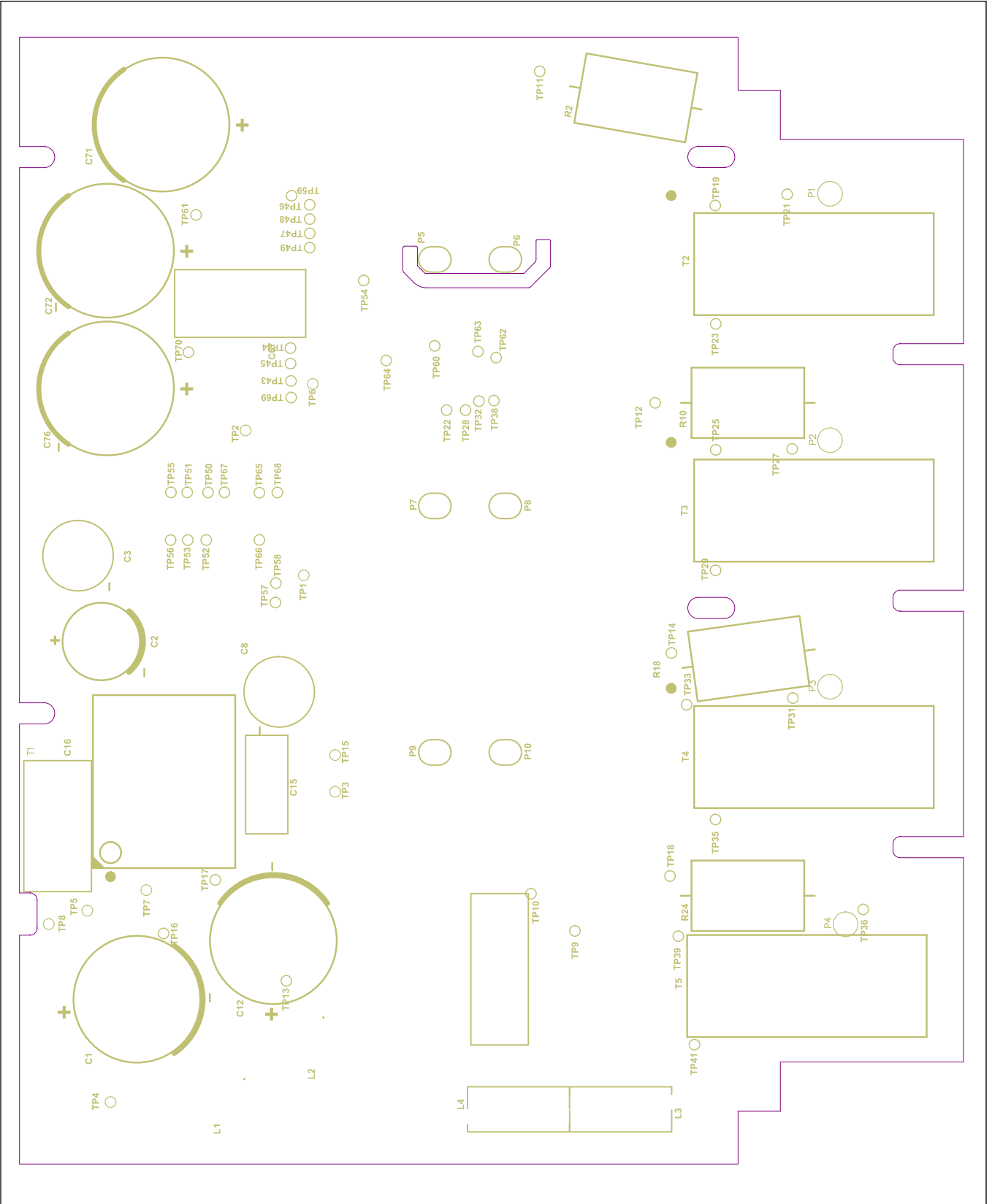


180-00053	Res 43K 1% 0402	1 R309	Koa Speer Electronics	RK73H1ETTP4302F
180-00179	Res 470R 62.5 mW 5% 0402 Thick Film	1 R514	Yageo	RC0402JR-07470RL
180-00180	Res 220R 62.5 mW 5% 0402 Thick Film	1 R517	Yageo	RC0402JR-07220RL
180-00181	Res 270R 62.5 mW 5% 0402 Thick Film	1 R518	Yageo	RC0402JR-07270RL
180-00241	Res 24K 62.5mW 1% 0402 1%	1 R403	Walsin	WR04X2402FTL
180-00332	Res 68k 0402 1%	1 R413	Yageo	RC0402FR0768KL
180-00374	Res 510K 100mW 5% 0402 SMD	1 R802	Panasonic	ENJ2GE511X
180-00547	Res 0R0 0402 Thick Film	0	Koa Speer Electronics	RK73Z1ETTP
185-00001	Panasonic PCB Mount Relay ALDP - ALDP112W	2 K1100, K1101	Panasonic	ALDP112W
185-00004	Middle-stroke Tactile Switch (SMT)	0	OMRON	B3SL-1002P
185-00006	TAMPER SWITCH PUSH MOMEN SPST Gold Plated 0.5R 30V 0.1A RoHS, SM	3 SW500, SW501, SW502	Knitter-switch	DTS106CBT-1
185-00007	Switch 6mm square Reflow Light Touch	2 PB600, PB601	Panasonic	EVQ02P03W
190-00003	Buzzer Piezo 9x9x1.8 SMD	1 B2500	Ole Wolff Electronics Ltd	OWPB-9090185-40-03
195-00002	Transistor - General Purpose NPN BJT SMD SOT-23 BC847 (DC Current gain	9 Q503, Q504, Q600, Q700, Q701, Q702, Q1001, Q1100, Q1101	Chang Jiang	BC847
195-00004	P-Channel Trench MOSFET - PMN48XP - TSOP6	1 Q900	Neperia	PMN48XP-125
195-00005	P-CHANNEL MOSFET	3 Q500, Q501, Q505	MCC	B5S84A-TP
195-00008	MOSFET N-CHANNEL FDV305N SOT23	1 Q502	MCC	SI2302A-TP









item_number	revision	item_name	quantity	reference_designator	manufacturer_1	manufacturer_item_number_1	manufacturer_2	manufacturer_item_number_2
830-00039	P5.0	EG-30A BASE BOARD PCB ASSEMBLY						
120-00019	A	Cap Cer 1nF 50V 10% X7R 0402	10	C36, C38, C40, C41, C53, C55, C58, C59, C70, C138	Yageo	CC0402KRX7R9BB102	Murata	GRM155SR71H102KA0J
120-00037	A	Cap Cer 12pF 50V 5% COG/NPO 0402	2	C33, C34	Murata	GRM1555C1H120JA01D		
120-00050	A	Cap Cer 1nF 1000V 10% X7R 1210	1	C7	Yageo	CC1210KX7R1CB8102		
120-00052	D	Cap Cer 10nF 1000V 10% 1210	1	C13	Murata	GRM32QR73A103KW01L	Yageo	CC1210KX7R1CB8103
120-00079	A	Cap Cer 10uF 25V 20% X5R 0603	6	C6, C10, C63, C68, C93, C97	Murata	GRM188R61E106MA73D		
120-00082	A	Cap Cer 4.7uF 50V 10% X7R 1206	7	C49, C50, C61, C62, C65, C66, C73	Murata	GRM31CR71H475KA12L		
120-00104	A	CAP CER 4.7uF 10V +/-10% X5R 0807C92	C95	C100*	Taiyo Yuden	LMK212B475KD-T		
120-00140	1	Cap 4.7nF 500V 20% Radial Film Capacitor	2	C16, C67	TDK	B81123C1472M189		
120-00153	4	Diode 150V 3A Schottky DO-201AD	2	D3, D7	ST Micro	STPS3150U	Galaxy	SL3150BD
120-00154	B	Cap Alum 1000uF 35V 20% Radial-Through Hole	1	C2	Jianghai	ECR1VL102M1L501030E-01	Nippon Chemi-Con	EKYB350ELL102M1305
120-00171	1	CAP CER 1uF 16V 10% X5R 0402	2	C60, C90	Yageo	CC0402KX5R78B105		
120-00200	2	Cap Alum 82uF 20% 450V	2	C1, C12	United Chemi-Com	EKOL451ELL820MM25S		
120-00211	1	Cap Cer 0.1uF 10% 50V 0402 SMD	13	C4, C11, C14, C32, C35, C37, C52, C54, C64, C69, C94, C96, C137	TDK	C1005X7R1H104K050B6		
120-00216	1	Cap Cer PTH 2.2nF 500VAC 20% X760 Through Hole	1	C15	Vishay	VY1222M475UQ63V0		
120-00239	1	Cap Cer 220nF 16V 10% X7R 0402	2	C91, C101	Fenghua	0402B22K160NT		
120-00241	1	Cap Cer 22nF 16V 10% X7R 0402	20	C19, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C39, C48, C57, C77, C82, C83, C84, C85, C17, C18, C20, C42, C43, C44, C45, C46, C47	Fenghua	0402B22K160NT		
120-00244	1	Cap Cer 22pF 50V 5% COG 0402	9	C71, C72, C76	Fenghua	0402CG220I500NT		
120-00260	1	Cap Electro 3300uF 25V	3	C71, C72, C76	Jianghai	ECR1ELL332M1L751831		
120-00436	1	Cap 2200uF, 16Vdc, 205, ESR 18mR, Radial	2	C3, C8	Panasonic	EEUF1C22L		
125-00128	1	Con 28 way Through-Hole 0.025" Sq Post Header	1	PL1	Samtec	HTSH-114-114-D		
130-00017	2	XTAL 16.384MHz 12pF 30ppm SMD	1	Y1	KDK	SEG16M38A12FHRE0		
140-00011	D	Diode High Speed Switching SOT-23 BAW56	1	D19	Galaxy	BAW56GD	NXP	BAW56
140-00022	F	Diode High efficiency 1000V 1A DO-214AC, HFM108	1	D6	Galaxy	US1MX	Rectron	HFM108
140-00025	A	zTVS 150V 400W SMD DO-214AC P4FMAJ150A	1	ZD1	ST Micro	SMAJ130CA-TR		
140-00067	1	Diode Ultra Fast 2A 200V Fast Recovery Rectifier SMA	2	D10, D18	Taiwan Semiconductor	ES2DA		
140-00099	1	S1V Diode 2kV	8	D1, D2, D4, D5, D9, D11, D12, D13	Diodes Inc	S1V		
140-00101	1	P45MA18CA TVS Diode	3	ZD2, ZD3, ZD4	Bourns	P45MA18CA		
140-00110	1	Diode Rectifier 1A 1000V SMD	1	D8	Diodes Inc	R51MWF-7		
140-00174	1	Diode Dual General Purpose, Power, Switching	4	D14, D15, D16, D17	Nexperia	BAV199,215		
150-00133	A	ADE7878A Polyphase Energy Metering IC	1	U2	Analog Devices	ADE7878AACFZ-RL		
150-00134	2	ADR280 1.2V Reference +/- Zppm	0		Analog Devices	ADR280AKS-REEL	Analog Devices	ADR280ARTZ-R2
150-00135	4	BL8023 H bridge driver	3	U6, U7, U8	Shanghai Belling	BL8023KCB6E		
150-00155	1	IC HTU20D RH/T Sensor	1	U10	TE CONNECTIVITY	HTU20D		
150-00157	1	IC IW1822-00 18W PWM Flyback controller	1	U1	Dialog Semiconductor	IW1822-00		
150-00159	2	IC LP2951 Adjustable Voltage Regulator	1	U4	TEXAS INSTRUMENTS	LP2951-33D		
150-00182	1	IC Serial I2C bus EEPROMs	0		ST Micro	M24C02-RMNM6TP		
150-00183	A	IC Digital Isolator SMD/SMT	2	U3, U5	TEXAS INSTRUMENTS	ISO7741FBDWR		
155-00037	A	Ferrite Beads 0402 600ohm 900mA +/-25%	1	FB6	Murata	BLM15PX601SN1D		
155-00118	1	Inductor 2.5 turns 1A	2	L3, L4	Bourns	FB20010-3B-RC		
155-00163	1	Inductor 4.7mH, 120mA, 5%, Choke	2	L1, L2	TDK	B82144B1475J000		



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175-00031	P5	EG-30A BASE CARD BARE PCB	1					
180-00001	A	Res 0R0 0402 Thick Film	6	R57, R61, R80, R81, R83, R90	Koa Speer Electronics	RK73Z1ETTP	Walsin	WR04X000_PTL
180-00016	B	Res 3K3 62.5mW 5% 0402	1	R95	Koa Speer Electronics	RK73B1ETTP332J	Yageo	RC0402JR-073K3L
180-00025	A	Res 3K9 62.5mW 1% 0402	1	R22	Vishay	CRCW04023K9QINED		
180-00057	A	Res 470K 250mW 1% 1206	5	R3, R5, R9, R11, R13 R29, R33, R34, R41, R45, R47, R97, R100	Yageo	RC1206FR-07470KL	PHYCOMP	2322 724 64704
180-00065	A	Res 1K 125mW 1% 0805	8		Walsin	WR08X1001FTL	Yageo	RC0805FR-071KL
180-00077	B	Res 1K 0.25W 1% 1206	0		Walsin	WR12X1001FTL	Samsung Electro-Mech	RC3216F1001CS
180-00137	A	Res 0R0 Zero Ohm 100mW 0603 AEC-Q200 Thick Film	2	R52, R104	Stackpole Electronics	RMCF0603ZTOR00		
180-00161	2	RES 20K 100mW 1% 0402 Thick Film	1	R20	Koa Speer Electronics	RK73H1ETTP2002F		
180-00188	1	Res 22R 100mW 1% 0402 Thick Film	12	R65, R66, R71, R72, R73, R74, R75, R76, R77, R78, R79, R201	Panasonic	ERJ2RKF22R0X		
180-00263	A	Res 4K7 62.5mW 1% 0402 Thick Film	4	R69, R70, R88, R89	Vishay	MCS04020C4701FE000		
180-00266	1	Res 270K 1% 250mW 1206 SMD	6	R4, R6, R12, R17, R19, R23	Vishay	CRCW1206270KFKEA		
180-00269	1	Res 47R 1% 250mW 1206 SMD	4	R7, R101, R102, R103	Vishay	CRCW120647R0FKEA		
180-00272	1	Res 1K3 1% 250mW 1206 SMD	0		Vishay	CRCW12061K30FKEA		
180-00275	2	Res 4R7 1% 500mW 1206 SMD	2	R26, R27	ROHM	ESR18E2ZF4R70	Yageo	RC1206FR-7W4R7L
180-00300	1	Res 0R0 62.5mW 5% 0402 Thick Film	5	R62, R108, R111, R212, R213	Yageo	RC0402JR-070RL		
180-00302	1	Res 100k 62.5mW 5% 0402 Thick Film	4	R84, R85, R91, R92	Yageo	RC0402JR-07100KL		
180-00303	1	Res 47k 62.5mW 1% 0402 Thick Film	0		Yageo	RC0402FR-0747KL		
180-00315	A	Res 10K 62.5mW 1% 0402 Thick Film	10	R51, R63, R64, R68, R86, R93, R94, R109, R110, R112	Walsin	WR04X1002FTL		
180-00318	A	Res 3R74 250mW 1% 1206	8	R36, R38, R48, R55, R59, R67, R98, R99	Yageo	RC1206FR-073R74L		
180-00333	1	Res 1K0 1% 62.5mW 0402 50ppm	5	R21, R37, R46, R56, R87	Yageo	RE0402FRE071KL		
180-00335	2	Res 1R 5% 125mW 0805	1	R16	Yageo	RC0805R071RL		
180-00366	A	Res 33R 5W 5% Through Hole	4	R2, R10, R18, R24	Vishay	AC05000083309J6BCS		
180-00594	1	Res 1K0 1% 0603	2	R115, R116 R30, R31, R32, R35, R39, R40, R42, R43, R44, R49, R50, R82, R96, R105, R106, R107	Walsin	WR06X1001FTL		
180-00613	1	Res 270K, 1%, 1W, 0207, 50ppm, MELF	16		Vishay	MMB02070C2703FB200		
180-00615	1	Varistor 550Vac, 745 Vdc, 10%	1	R117	TDK	B72220S2551K101		
192-00026	1	EG30A transformer	1	T1	3L	2590-W-00	Galaxy	EF20-975uH
180-00613	1	Res 270K, 1%, 1W, 0207, 50ppm, MELF	16		Vishay	MMB02070C2703FB200		
180-00615	1	Varistor 550Vac, 745 Vdc, 10%	1	R117	TDK	B72220S2551K101		
192-00026	1	EG30A transformer	1	T1	3L	2590-W-00	Galaxy	EF20-975uH



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