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# C&I LUNA2000 SUPERVISION SERVICES

| | BASIC | EXTENDED | ADVANCED |
|---|---|---|---|
| BEFORE COMMISSIONING | ALL NECESSARY SUPPORT AND TECHNICAL CONSULTATIONS ABOUT:<br>- installation site, EPC work;<br>- electrical and communication line design;<br>- compatibility of the products & 3rd party devices<br>- necessary 3rd party products (if needed);<br>- obligatory permissions and agreements (local). | ALL NECESSARY SUPPORT AND TECHNICAL CONSULTATIONS ABOUT:<br>- installation site, EPC work;<br>- electrical and communication line design;<br>- compatibility of the products & 3rd party devices<br>- necessary 3rd party products (if needed);<br>- obligatory permissions and agreements (local);<br>- safety precautions in on-grid & off-grid mode;<br>- electrical safety design;<br>- automatic MCCB's<br>- integration with existing BMS or Photomate EMS.<br><br>ON-SITE:<br>- one verification on-site visit before delivery/commissioning after EPC work. | ALL NECESSARY SUPPORT AND TECHNICAL CONSULTATIONS ABOUT:<br>- installation site, EPC work;<br>- electrical and communication line design;<br>- compatibility of the products & 3rd party devices<br>- necessary 3rd party products (if needed);<br>- obligatory permissions and agreements (local);<br>- safety precautions in on-grid & off-grid mode;<br>- electrical safety design;<br>- automatic MCCB's<br>- integration with existing BMS or Photomate EMS.<br><br>ON-SITE:<br>- one verification on-site visit before delivery/ commissioning after EPC work. |
| DURATION | 6 HOURS | 6 HOURS | 6 HOURS + 1 DAY VISIT |
| ON-SITE COMMISSIONING | - verification of components assembly;<br>- basic electrical safety measurements*;<br>- powering on system;<br>- Smartlogger/SACU commissioning;<br>- firmware upgrades;<br>- connection to with FusionSolar PVMS<br>- testing working modes and features;<br>- defect elimination (if needed)**;<br>- basic how to use training (2 hours); | - verification of components assembly;<br>- basic electrical safety measurements*;<br>- powering on system;<br>- Smartlogger/SACU commissioning;<br>- firmware upgrades;<br>- connection to with FusionSolar PVMS<br>- testing working modes and features;<br>- defect elimination (if needed)**;<br>- integration with PV (Huawei inverters only);<br>- advanced off-grid mode tests;<br>- advanced how to use & basic maintenance training (2-3 hours). | INSTALLATION OF:<br>- battery packs (forklift provided by customer);<br>- AC and DC harness;<br>- SACU, PCS, CMU, SmartMeter;<br>- DC battery rods;<br>- UPS (for off grid scenarios);<br>- communication cables internal & external.<br>- verification of components assembly;<br>- basic electrical safety measurements*;<br>- powering on system;<br>- Smartlogger/SACU commissioning;<br>- firmware upgrades;<br>- connection to with FusionSolar PVMS<br>- testing working modes and features;<br>- defect elimination (if needed)**;<br>- integration with PV (Huawei inverters only);<br>- integration with EMS (if provided by Photomate);<br>- advanced off-grid mode tests;<br>- complex on-site training 5-6 hours. |
| DURATION | 1 DAY | 1 DAY | 2 DAYS |
| AFTER COMMISSIONING | - standard (real) remote technical support 8x5;<br>- 12 online inspections every 6 months from installation with provided report*<br><br>*FusionSolar Cloud connection needed | - standard (real) remote technical support 8x5;<br>- 12 online inspections every 6 months from installation with provided report*<br>- 1 on site visit inspection within 12 months of commissioning<br><br>*FusionSolar Cloud connection needed | - standard (real) remote technical support 8x5;<br>- 12 online inspections every 6 months from installation with provided report*<br>- 1 on site visit inspection within 12 months of commissioning<br>- 2 service visit on demand within 96h since service request.<br>*FusionSolar Cloud connection needed |
| **DURATION** | **6 HOURS** | **10 HOURS + 1 DAY VISIT** | **6 HOURS + 3 DAYS VISIT** |

HUAWEI Digital Power Partner VAP

HUAWEI Digital Power Partner CSP

*Basic electrical safety measurements contain: polarity check, earth bond check, insulation resistance check. Measurements does not end with official report. Provided measurements cannot substitute mandatory electrical safety measurements provided by qualified/ certified electricians according to local safety standards.

**Defect elimination refers to: inappropriate or wrong connection, assembly of components. Any physical damage, loss of parts/ components caused by customer/installer are excluded from Photomate responsibility.

1. Photomate service reserves right to refrain from performing commissioning activities if:
   - EPC & construction work does not meet local standards and manufacturer requirements;
   - electrical installation & design work does not meet local standards and manufacturer requirements;
   - customer will not ensure presence of qualified/certified electrician(s) responsible for O&M of electrical installation during all commissioning process;
   - work environment does not meet local safety standards;
   - environmental conditions does not allow to provide service safety.
2. In case of any event enlisted in point no. 1 service price does not cover additional on-site visits. Additional visit must be ordered based on pricelist.
3. Photomate does not take responsibility for electrical safety of low voltage installation (on-grid & off grid mode). All adjustments, safety measurements should be ensured by customer before product commissioning.
4. Advanced & Extended service contains full report from commissioning with all information and test results.

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# SPECIFIKATION | HUAWEI C&I LUNA2000

| PRODUKTER | 97kWh | 97kWh | 129kWh | 129kWh | 161kWh | 161kWh | 200kWh | 200kWh |
|---|---|---|---|---|---|---|---|---|
| C&I BESS | PRIMARY | SECONDARY | PRIMARY | SECONDARY | PRIMARY | SECONDARY | PRIMARY | SECONDARY |
| LUNA2000-1/2H1: Cabinet | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Lithium Battery Pack | 6 | 6 | 8 | 8 | 10 | 10 | 12 | 12 |
| LUNA2000-100KTL-M1: PCS | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ESC 360kw-F, Smart ESS DCDC | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Fire extinguishing system | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Battery installation tray | 1 | | 1 | | 1 | | 1 | |
| DTSU666-HW | 1 | | 1 | | 1 | | 1 | |
| SmartLogger3000A03EU | 1 | | 1 | | 1 | | 1 | |
| SmartModule1000A | 1 | | 1 | | 1 | | 1 | |
| PCS Communication Terminal Field/Replacement bag | 1 | | 1 | | 1 | | 1 | |
| Smart ETH gateway_5*FE | 1 | | 1 | | 1 | | 1 | |
| | | | | | | | | |

| OPTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SmartLogger3000A03EU ersätts med SmartACU2000D-00 | | | | | | | | |
| Smart Power Sensor-80AI-T0 | | | | | | | | |