भारत सरकार
अंतरिक्ष विभाग
सतीश धवन अंतरिक्ष केंद्र शार
श्रीहरिकोटा रेंज डा.घ. 524 124
श्री पोट्टि श्रीरामुलु नेल्लूर जिला, आं.प्र., भारत
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सत्यमेव जयते

Goverment of India
Department of Space
Satish Dhawan Space Centre SHAR
Shriharikota Range P.O. 524 124
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सतीश धवन अंतरिक्ष केंद्र शार **SATISH DHAWAN SPACE CENTER SHAR**
श्रीहरिकोटा **SRIHARIKOTA :: तिरुपति जिला (आ.प्र.) TIRUPATI DISTRICT (A.P)– 524 124**

निविदा सूचना सं. TENDER NOTICE NO. SDSC SHAR/Sr.HPS/PT/RO-LSSF/17/2025-2026

भारत के राष्ट्रपति की ओर से वरि. प्रधान क्रय एवं भंडार, सतीश धवन अंतरिक्ष केंद्र श्रीहरिकोटा निम्नलिखित वस्तुओं के लिए ऑनलाइन निविदाएं आमंत्रित करते हैं:- On behalf of President of India, Sr. Head Purchase and Stores, SDSC SHAR, SRIHARIKOTA invites on line quotations for the following.

क्र.सं. Sl No	संदर्भ सं. Ref. No.	विवरण Description	मात्रा Qty.
01.	**SDSC SHAR /LSSF PURCHASE/2025000595 [Public Tender - Two Part]**	**Supply of DC Power Distribution Racks**	**2 Nos**

निविदा दस्तावेजों को डाउनलोड करने की अंतिम तिथि Last Date for downloading of tender documents : 14.08.2025 at 14:00 hrs.
ऑनलाइन निविदा जमा करने की अंतिम तिथि Due Date for submission of bids online : 14.08.2025 at 14:00 hrs.
निविदाएं खोलने की नियत तिथि Due Date for opening of tenders : 14.08.2025 at 14:10 hrs.

निविदाकार के लिए निर्देश Instructions to Tenderers:

निविदाएं ईजीपीएस के माध्यम से ही भेजी जाएं तथा कोई निविदा शुल्क लागू नहीं होगा।
Bids shall be submitted on line through EGPS only and No tender fee shall be applicable.

01. कार्य के सम्पूर्ण विवरण/जानकारी तथा नियम व शर्तों इत्यादि के लिए संलग्न अनुलग्नक को देखें। / For full details/scope of work and terms and conditions etc., please see the enclosed annexures.

02. इच्छुक निविदाकार इसरो की ई-खरीद वेबसाइट इसरो न्यू ई-प्रोकुरमेंट www.eproc.isro.gov.in से ई-निविदा डाउनलोड और अपनी निविदा ई-खरीद पोर्टल पर ऑनलाइन जमा कर सकते हैं। डाक / वाहक / स्वयं द्वारा प्राप्त निविदाओं पर विचार नहीं किया जाएगा। / Interested tenderers can download the e-tender from ISRO NEW E-PROCUREMENT www.eproc.isro.gov.in and submit the offer on line in the e-procurement portal. Offers sent physically by post/courier/in person will not be considered.

03. निविदा दस्तावेज इसरो की वेबसाइट www.isro.gov.in इसरो न्यू ई-प्रोकुरमेंट वेबसाइट www.eproc.isro.gov.in तथा सतीश धवन अंतरिक्ष केंद्र शार की वेबसाइट www.shar.gov.in पर भी उपलब्ध हैं। इन्हें केवल ई-खरीद पोर्टल से डाउनलोड और निविदा ऑनलाइन जमा कर सकते हैं। / Tender documents are also available on ISRO website www.isro.gov.in, ISRO New e-procurement website www.eproc.isro.gov.in and SDSC SHAR, Sriharikota website www.shar.gov.in. The same can be down loaded and offer submitted on line in the new e-procurement portal only.

04. निर्धारित तिथि/समय के पश्चात प्राप्त बोलियों पर विचार नहीं किया जाएगा। / Quotations received after the due date/time will not be considered.

04. वरि. प्रधान क्रय एवं भंडार, सतीश धवन अंतरिक्ष केंद्र श्रीहरिकोटा के पास किसी भी या सभी निविदाओं को स्वीकार / अस्वीकार करने का अधिकार है। / Sr. Head, Purchase and Stores, SDSC-SHAR, Sriharikota reserves the right to accept or reject any/or all the quotations.

05. GeM ARPTS Report ID: GEM/GARPTS /03072025/PHL35ZT7OW4O

दिनांक DT: 22.07.2025

वरि. प्रधान क्रय एवं भंडार
Sr. HEAD PURCHASE AND STORES

ANNEXURE-1

TECHNICAL SPECIFICATIONS FOR SUPPLY OF DC POWER SUPPLY DISTRIBUTION SYSTEM

1. INTRODUCTION:

The DC Power supply distribution system is mainly to distribute the DC Power to the SLP Gas Storage Process elements with Remote Power ON & OFF features.

A DC Power Supply Distribution system consists of SMPS DIN rail Mountable DC power supply units installed in a Floor mountable rack with Remotely powering ON & OFF SMART Contactors with bypass provision.

2. SCOPE OF WORKS:

1. Supply of DC Power supply distribution racks as per the specifications including the supply of DC power supply units as indicated in sl. No: 5.1
2. Wiring of MIL 26482G 4Pin Power connectors.
3. Installation of DCPS in a Suitable industrial rack with proper design of lighting, ventilation with forced cooling arrangements and as per safety standards.
4. AC Wiring for power supply units through suitable MCBs and DC output wiring to MIL connectors through NC contacts of DC contactors.
5. Wiring of power supply status to remote controller through MIL connector.
6. Gland plates for incoming and outgoing power cable interfaces, punching details will be provided after PO placement.
7. End to end panel testing.
8. As built drawings (02 sets of Hard copies) to be submitted

3. SUPPLY OF DC POWER SUPPLY DISTRIBUTION RACKS WITH REMOTE POWER ON & OFF PROVISION:

a) Suitable industrial rack with proper design of lighting, ventilation with forced cooling arrangements.
b) SMART Circuit breakers for remote On & OFF control.
c) MCCBs for extending the supply in bypass mode and will be installed across the SMART circuit breakers.
d) Modbus gate way interfaces for operating the SMART circuit breakers in PDUs.
e) Provision for accepting the IP based commands for operating the Contactors remotely. (Remote PLC system is in the scope of Department)
f) Gland plates for incoming and outgoing cable interfaces, punching details shall be provided after PO placement.
g) End to end testing and wiring drawings.

4. Testing and qualification:

a. DC power supply units (with Internal diode):
   - Load test @ 90% rating for the duration of 1Hr (100%)
   - Environment tests for 02 Nos @ 50DegC, 60% Rh @ 90% load condition for the duration of minimum 72Hrs

b. Integrated panel testing: As per QAP. Party has to submit the QAP after PO placement within 10 days for department approval. Same will be approved by Department within a week.

5. DETAILED SPECIFICATIONS :

5.1 Specifications of DC Power Supply units: (Total quantity: 56 Nos)

Sl. No.	Parameters	Specifications
1	Type	Switched Mode Power Supply, DIN rail mountable
2	Output Voltage	• Nominal voltage: 32V (fully floating up to 300 volts above ground reference) • Adjustable set voltage: 24V DC to 36V DC or better
3	Output Current	20A
4	AC Input	Voltage: 180 to 260V AC, Single Phase, 50Hz
5	Line Regulation	< ± 0.5 % of rated Output Voltage (From 185V AC to 265V AC at constant load)
6	Load Regulation	<0.5 % + Diode drop (diode is internal to power supply) From No-Load to Full-Load @ constant input AC voltage
7	Output Ripple voltage	<50 mV rms
8	Efficiency	> 85% (at rated capacity for 230V AC input)
9	Transient Recovery time	2ms or better for a load change 10 to 90% of rated output current
10	Over load and Short circuit protection	Output protected from automatic overload and continuous short circuit
11	Over-Voltage Protection	Required
12	Monitoring and Controls	• Output voltage adjustment from front panel. • Load current setting from front panel (I > set value, DCPS to be tripped) • DC Voltage Monitoring terminals on front panel before ORing diode. • 3Digit display for O/P voltage & current Independent display / common through selector switch.
13	Indication (Front panel)	1. Power supply ON indication for AC input 2. DC output : OK, Overload current or CC Indication. 3. Trip / faulty
14	Power supply DC output ON status	For Monitoring the power supply status at Remote PLC system, power supply will be provided with Potential free contact. The relay will be driven prior to internal 'OR'ing diode.
15	Terminations	Through screw terminals or cage clamp type
16	Apprx. Size of unit	Apprx. 120(W)x130(H)x150(D)mm (± 10mm)
17	Oring Diode	Internal Oring diode is preferred. The selected diode shall meet the maximum voltage requirement and 110% of maximum rating of the power supply on continuous duty.
18	Insulation resistance test	Will be ≥ 50 M ohms at 25°C, 70%RH, 500V DC between output and chassis/ground
19	Operating temperature	10°C to 50°C
20	Storage temperature	20° C to 70°C
21	Humidity	≤90% RH non-condensing
22	Cooling	Forced air cooling by internal fan/perforated cabinet
23	Make /model	Party to be mentioned during quotation
24	Earthing	Required as per IS standard

Sl No	Description / Specifications
5.2.	**5.2 Industrial type DC Power supply distribution Racks:**
	a. Industrial racks shall be robust, free standing, floor-mounted, double door, with locking provision. b. These racks shall be equipped with DC regulated power supply units, IP based smart link devices, Contactors, MCBs, Terminal blocks. etc c. Racks Dimensions: ~2100(H) x 400(D) x 1200(W) mm, Make: Rittal / Reputed. d. 14 Nos of Main power supply units shall be accommodated in one rack for UPS – 1 and 14 Nos of Redundant power supply units shall be placed in another Rack for UPS-II. Further extension of AC and DC outputs will be made as per GA drawings e. 100 mm ISMC base channels shall be separately provided all along with the base of the racks. f. Material of construction for Instrument racks shall be of CRCA steel with powder coating. g. Thickness of bottom & Top Plates and gland plates shall be of 3 mm. Thickness of side plates and front access doors & rear doors shall be of 2 mm or 3 mm. h. Cable entry for rack shall be from bottom through removable cable gland plates. i. Connector plate required for DC output terminations. j. Rack shall be provided with 2 numbers of copper bus bars isolated from each other and the body of the rack for power & instrumentation Earthing. k. Rack should have panel lighting, ventilation fans and forced cooling arrangements as per the heat dissipation calculations of the power supply units installed in the rack. l. Panel should be compliance of relevant as per Electrical and safety standards. m. General arrangement layouts will be finalized during detailed engineering and shall be approved by Department. n. DC Contactors with auxiliary contacts are of Schneider / Siemens / reputed make, 02 Nos of NO and 6 Nos of NC contacts with 20A contact rating. o. Incoming 3Phase supply to the PDU racks through Switch Disconnect Isolator (4P 415v AC) for UPS – 1 and UPS – II. All 230V AC input to Power supply units through MCBs. p. 5A sockets (02 Nos) with MCB control shall be provided for utility. q. DCPS status interfacing up to MIL connector through connector mounting plate. r. DCPS output voltage to be extended to MIL connectors through DC Contactors NC contact. s. MCCBs for extending the Incoming 3 phase UPS – 1 & UPS – 2 supply for the panel.
5.3	**5.3 Remote power On & OFF System :** a. All DC power supply units need to be powered ON (AC 230V supply extension) through Remote PLC based system (in the scope of Dept.). b. Configuration as per GA drawing. c. IP based commands will be extended from the existing Remote Power On system. Panel should have Schneider make IP based Smart link units. d. From smart links, digital output commands will be extended to Schneider Reflex iC60 Integrated control circuit breakers of suitable ratings for remote Power ON & OFF control. e. 04 Nos of circuit breaker arrangements per one Panel to be planned. 02 Nos for main chain and 02 numbers for Redundant chains. f. DC Power supply units (20A) shall be powered ON through SMART circuit breaker. Model number, Ratings & Characteristics of the SMART circuit breaker shall be suitably selected on considering the inrush currents and number of DC Power supplies to be powered ON. g. MCCB will be in parallel with Circuit breaker to enable the bypass provision. Model number, Ratings & Characteristics of MCCB shall be suitably selected.
5.4	**5.4 Internal wiring of the panel:** a. All the equipment's / components shall be as per approved GA drawings and relevant standards. b. Provision shall be made available for installing of spare DC power supply units up to 04 Numbers. c. Internal wiring like distribution of 3Ph AC supply, 1Ph supply, DC Power, status interfaces, proper sizing of the cable based on current ratings, color codes, cross

	feruling and as per relevant electrical standards. d. The materials used and the workmanship in the panel shall be off good Quality. e. Earthing of the panel f. DC output voltage interfaced to connectors through NC contacts of DC Contactors and interfaced to terminal blocks further to MIL connectors (Receptacle). **g. If the offered DC Power supply units is NOT having the provision for Internal Oring diode and the Potential free contacts for status extension to remote console, External Oring modules and Relays may be considered to meet the requirements. Relay part no: OEN 67EP6C7PCNIT with Wago profile, Accordingly BOM to be revised.**

6. Tentative bill of material: (For 02 Nos of Independent PDU racks):

Summary of BOM for TWO numbers of Power Distribution Racks:

Sl no	Description of the item	Rack -1 (UPS1&2)	Rack - 2 (UPS1&2))
1	SMPS Power Supply units, DIN Rail mountable, Input: 180 to 260V AC, Output: 24 to 36V DC, 20A DC rating, Detailed specifications as per sl. No: 5.1	28	28
2	Wired Enclosure PDB Panel Of Size 2115 H X 1000w X 400 D. (Including 15mm AVP +100mm Base Frame) with proper cooling system, lighting and with proper dust protection .	2	2
3	DC contactors (TeSys K) with auxiliary contacts of 2 NO + 6 NC, 20A rating, 24 V DC Standard coil.	14	14
4	4P power MIL connectors sets (male & Female including back shell)	20	20
5	Switch Disconnect Isolator 4P 415v AC	4	4
6	Suitable power rating MCCB 4 Pole, 415 VAC	4	4
7	Integrated Control & Overcurrent Protection Device SMART MCB,4P, 60A, 10Ka, Reflex i60	8	8
8	Smart Link for IP Based With 24v DC excitation. Separate DC ored power to be considered (suitable rating) for excitation of Smart link.	2	2
9	MCB of rating 10A, 6A rating for extending AC power to DCPS	As per the wiring requirement	
10	Suitable rating R,Y,B Power terminal Blocks ,Wires, and wago TBs and other accessories, Panel Earth & Electronic Earth Busbar		

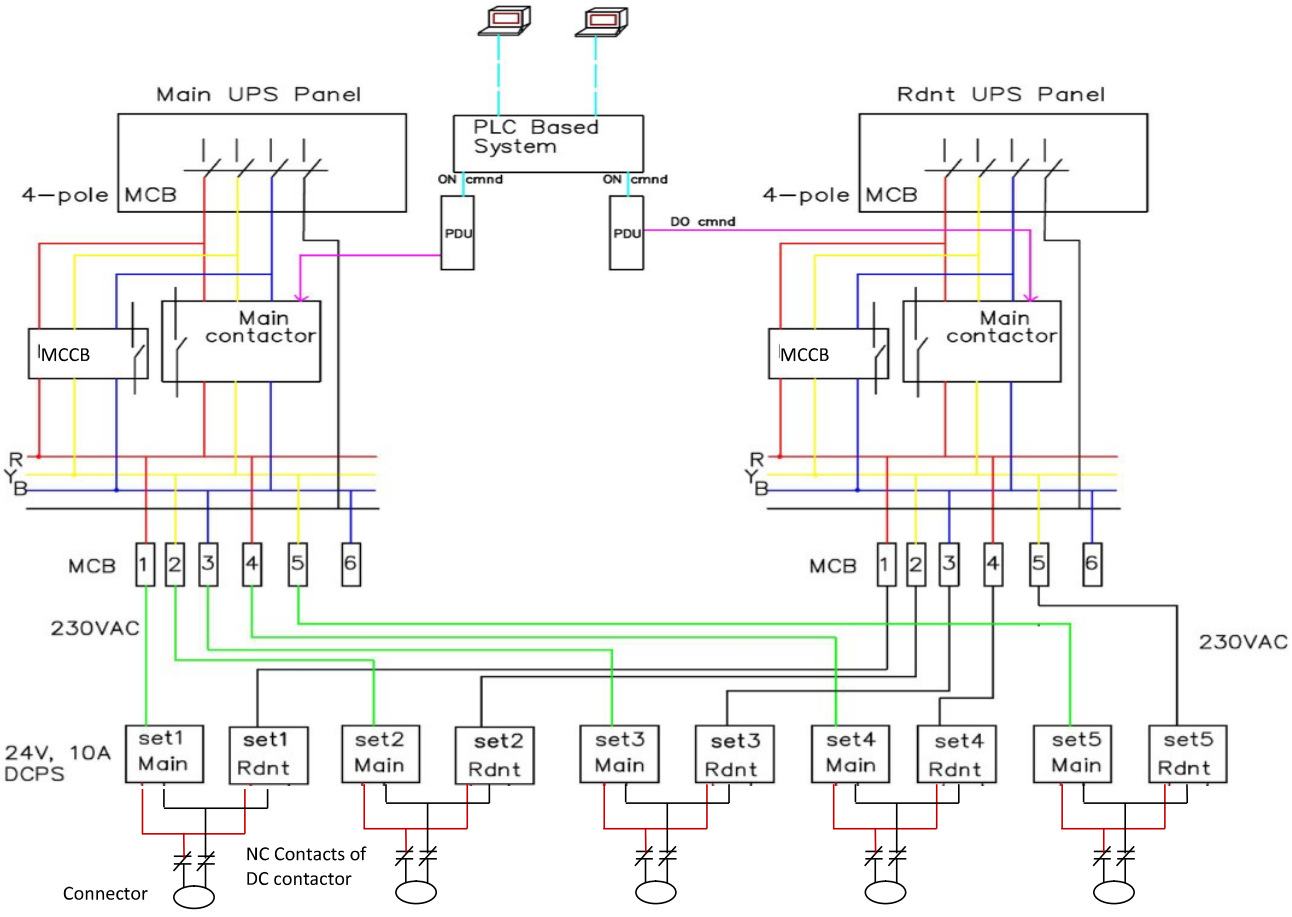
7. CONDITIONS FOR SUPPLY:

A. QAP and Detailed Engineering drawings shall be submitted for purchaser's approval within 10days of PO placement and same will be approved by Department within 07 days.
B. Pre-delivery Inspection will be carried out at your factory as per approved QAP. The following tests are proposed to carry out as part of PDI:
   I. Physical verification for workmanship and engineering. (**All the Units**)
   II. Functional checks (O/P) @ Full load, Redundancy changeover tests in Ored configurations, Voltage adjustment, Current limit etc. (100%)
   III. Load and line regulation, over load and short circuit protections (100%)
   IV. Ripple measurement test (100%)
   V. Environment testing Thermal test of Power supply at 50^0 C and 80% RH for a duration of 72 Hrs (for randomly selected Two power supply unit including oring diode).
C. Two sets of hard copy of As - Built drawings, Maintenance and troubleshooting documents & EMI/RFI compliance certificates shall be submitted along with supply of items.
D. Power supply test reports and test certificates of all electrical components.
E. Supplied products shall be of Minimum ONE YEAR warranty

8. CONDITIONS FOR QUOTATION:

1. Party has to note that Tender is **TWO Part Bid** (Technical & Commercial)
2. Party has to confirm the GA drawings, compliance of the specifications, Make and model number of the offered power supply unit and technical catalogues has to be attached along with the offer. Without which, the offer will NOT be considered.
3. Offered Power supply units shall be catalogued products, designed & Manufactured as per relevant IS Standards.
4. Data sheets of the SMART link, Reflex i60, DC contactors, switch dis-connector Isolators and MCCB make and Model numbers shall be attached along with the offer.
5. Payment will be made after receipt and acceptance of the Power distribution racks at SDSC SHAR.
6. Tenderer shall clearly indicate the items, if any, excluded from his scope of work, failing which it will be deemed that the scope of work is in conformity with the requirements of the technical specifications.
7. Party has to quote for the supply of DC power supply distribution racks as per specifications. Partial offers or Part order is not acceptable.
8. Department is right to conduct the vendor evaluation if required, during vendor evaluation party has to submit the relevant technical and documentation support for Team ISRO.

9.CONFIGURATION SCHEMATIC OF (GA-01) REMOTE DC POWER SUPPLY DISTRIBUTION SYSTEM :



PDU RACK WIRING SCHEMATIC

COMPLIANCE STATEMENT FROM VENDOR

Part has to clearly give the Compliance of each point and calculations

1.0 Specifications of DC Power Supply units:

Sl. No.	Parameters	Specifications	Compliance by vendor
1	Type	Switched Mode Power Supply, DIN rail mountable	
2	Output Voltage	• Nominal voltage: 32V (fully floating up to 300 volts above ground reference) • Adjustable set voltage: 24V DC to 36V DC or better	
3	Output Current	20A	
4	AC Input	Voltage: 180 to 260V AC, Single Phase, 50Hz	
5	Line Regulation	< ± 0.5 % of rated Output Voltage (From 185V AC to 265V AC at constant load)	
6	Load Regulation	<0.5 % + Diode drop (diode is internal to power supply) From No-Load to Full-Load @ constant input AC voltage	
7	Output Ripple voltage	<50 mV rms	
8	Efficiency	> 85% (at rated capacity for 230V AC input)	
9	Transient Recovery time	2ms or better for a load change 10 to 90% of rated output current	
10	Over load and Short circuit protection	Output protected from automatic overload and continuous short circuit	
11	Over-Voltage Protection	Required	
12	Monitoring and Controls	• Output voltage adjustment from front panel. • Load current setting from front panel (I > set value, DCPS to be tripped) • DC Voltage Monitoring terminals on front panel before ORing diode. • 3Digit display for O/P voltage & current Independent / common through selector switch.	
13	Indication (Front panel)	1. Power supply ON indication for AC input 2. DC output : OK, Overload current or CC Indication. 3. Trip / faulty	
14	Power supply DC output ON status	For remote Health Status Monitoring of power supply, power supply will be provided with Potential free contact. The relay will be driven prior to internal 'OR'ing diode.	
15	Terminations	Through screw terminals	
16	Apprx. Size of unit	Din Rail – 120(W)x130(H)x150(D)mm	
17	Oring Diode	Internal Oring diode is preferred. The selected diode shall meet the maximum voltage requirement and 110% of maximum rating of the power supply on continuous duty.	
18	Insulation resistance test	Will be ≥ 50 M ohms at 25°C, 70%RH, 500V DC between output and chassis/ground	
19	Operating temperature	10°C to 50°C	
20	Storage temperature	20° C to 70°C	
21	Humidity	≤90% RH non-condensing	
22	Cooling	Forced air cooling by internal fan/perforated cabinet	
23	Make /model	Party to be mentioned during quotation	
24	Earthing	Required as per IS standard	

2.0 DC Power supply distribution Rack and wiring:

SL NO	Description / Specifications	Compliance by vendor
1.	**Industrial type DC Power supply distribution Rack: (SL. NO: 5.2 of ANNEXURE – 1)** DC Power distribution rack dimensions, specifications, No. of DC power supply units to be installed, Lighting, ventilation and compliance for all requirements mentioned in sl. No: 5.2 of Annexure – 1.	
2	**Remote power On & OFF System :** Provision for Remotely powering ON for the DC power supply units, Configurations, Electrical components and requirements mentioned in sl. No: 5.3 of Annexure – 1.	
3	**Internal wiring of the panel:** Configuration, internal wiring of the Panel as per relevant standards and specifications / requirements mentioned in sl. No: 5.4 of Annexure – 1.	
4	**Bill of Materials:** Party has to confirm the tentative bill of materials considered in his quote. Other than this, if any items required to meet the specifications of the supply of DC power distribution racks.. party may to considered and list of elements to be mentioned as Annexure.	
5	**GA drawing:** Party has to complied the configuration of GA drawing	
6	Compliance for conditions for supply including QAP, Inspection, As built drawings and warranty clauses..etc as mentioned in sl. No: 7 of Annexure – 1	
7	Compliance for conditions for Quotation including Two part-bid, submission of relevant documents, BOM, Payment terms..etc as mentioned in sl. No: 8 of Annexure – 1	
8	Acceptance for the Vendor Evaluation	
9	Technical catalogues and relevant data sheets attached for compliance items required for DC Power distribution racks.	