

**PART A  
INVITATION TO BID**

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF ESKOM HOLDINGS SOC LTD					
BID NUMBER:	OLT2054616	OPENING DATE:	06 Dec 2022	CLOSING DATE & TIME:	13 Dec 2022- 23:00
DESCRIPTION	SPECIFICATION: SUPPLY & DELIVER TRANSMITTER TEMP:4-20 MA;O/P AS REQUIRED				
DELIVERY ADDRESS	Drakensberg Pumped Storage Scheme				
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).					

BID RESPONSE DOCUMENTS MAY BE SUBMITTED VIA: [Informaltendering@eskom.co.za](mailto:Informaltendering@eskom.co.za)

**Please note the following rules with respect to the OLT2054616 system (Informal Tendering)**

- Use the **OLT** reference pertaining the line item you wish to tender for and submit each **OLT** separately.
  - Please **ensure that the email subject line only contains the OLT Enquiry number heading and no other information**. Do not add any text to the subject line. Do not add any space in between the prefix and the enquiry number.
  - Ensure that the **OLT** enquiry number is stipulated in the subject line on all e-mails if multiple emails are sent
  - Ensure that you receive a confirmation email after submitting your documentation. Please follow up immediately via the email address of the respective buyer if you did not receive this.
  - Maximum attachment size per email is **10MB**. It is the supplier's obligation to ensure that the attachments per email do not exceed this limit.
  - Please note closing date and time on the OLT. Your submission will not be evaluated if it is received after the closing date and time of the OLT.
  - All tender returnables/documentation must be submitted to [Informaltendering@eskom.co.za](mailto:Informaltendering@eskom.co.za) only.
    - E-mails to any other address (except for clarifications) will not be accepted.
    - Failure to comply with these rules will result in your tender being disqualified.
  - Requests for Clarifications must be sent in writing via email to [mabasosz@eskom.co.za](mailto:mabasosz@eskom.co.za) and not to [Informaltendering@eskom.co.za](mailto:Informaltendering@eskom.co.za). All requests for clarifications and responses must be in writing. Eskom will respond to requests for clarification received within **three (3) working days** before the tender closing deadline, depending on the enquiry duration and complexity.
  - Please see Part C for returnables to be submitted with offer**
- Note:

- Due to varying requirements, slight changes could be included in each RFQ document, and suppliers are therefore required to read through the document carefully whenever invited to tender.
- ALL Suppliers are required to be registered (except foreign suppliers) on the National Treasury Central Supplier Database (CSD) as at tender response stage and the respective CSD number must be provided with all quotes together with the Eskom vendor registration number. Responses that do not comply with the CSD requirement will be regarded as non-responsive (except foreign suppliers). For CSD registration: Please register at <https://secure.csd.gov.za/>
- All Suppliers (including foreign suppliers) are required to complete SBD 1-Invitation to Bid and submit this annexure at tender closing deadline. Local suppliers are required to be tax compliant and must submit CSD Number/ Efiling pin number/ copy of tax clearance certificate as evidence of their tax compliance status.
- Foreign suppliers (even those with no footprint in RSA) are in addition required to answer Part B (3) which is part of the afore-mentioned SBD 1. Should the said foreign suppliers answer "yes" to any of the questions [Part B (3)]; they are required to be tax compliant and must therefore submit their Efiling pin number or copy of tax clearance certificate which will be verified by Eskom.
- All suppliers are required to refer to [www.eskom.co.za](http://www.eskom.co.za) for the Supplier Integrity Pact that must be downloaded and read. The Integrity Pact Declaration annexure A (attached hereto) named Supplier Declaration Form is a mandatory tender returnable.
- Specify line prices at lines where prices are submitted and indicate no quote at lines where no price is submitted. Refer Part D
- Where "designated sectors" are applicable, ensure that the relevant annexures and declarations are submitted by the OLT deadline, or the submission will be regarded as non-responsive and disqualified.

- You are also required to complete and submit the attached deviation form along with your quotation at OLT closing deadline. If there are deviations, but the deviation schedule has not been completed and/or returned with your quote, your offer will be will be disqualified.

**SUPPLIER INFORMATION**

NAME OF BIDDER			
POSTAL ADDRESS			
STREET ADDRESS			
TELEPHONE NUMBER	CODE	NUMBER	
CELLPHONE NUMBER			
FACSIMILE NUMBER	CODE	NUMBER	
E-MAIL ADDRESS			
VAT REGISTRATION NUMBER			
TCS PIN:		CSD No:	
ESKOM VENDOR NUMBER			
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	<input type="checkbox"/> Yes <input type="checkbox"/> No	B-BBEE STATUS LEVEL SWORN AFFIDAVIT	<input type="checkbox"/> Yes <input type="checkbox"/> No
IF YES, WHO WAS THE CERTIFICATE ISSUED BY?			
AN ACCOUNTING OFFICER AS CONTEMPLATED IN THE CLOSE CORPORATION ACT (CCA) AND NAME THE APPLICABLE IN THE TICK BOX		<input type="checkbox"/>	AN ACCOUNTING OFFICER AS CONTEMPLATED IN THE CLOSE CORPORATION ACT (CCA)
<input type="checkbox"/>	A VERIFICATION AGENCY ACCREDITED BY THE SOUTH AFRICAN ACCREDITATION SYSTEM (SANAS)		
<input type="checkbox"/>	A REGISTERED AUDITOR		
NAME:			

**[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/SWORN AFFIDAVIT(FOR EMEs& QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]**

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]	ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ANSWER PART B:3 BELOW ]
---	--	--	---

**PRICING**

<b>TOTAL TENDER PRICE, EXCLUDING DELIVERY</b>				
<b>TOTAL TENDER PRICE INCLUDING DELIVERY BUT EXCLUDING VAT</b>				
<b>TOTAL TENDERED PRICE, INCLUDING VAT</b>				
ARE DELIVERY CHARGES INCLUDED IN THE PRICE		Yes _____	No _____	
OFFER VALIDITY PERIOD (Minimum 30 days )				
ARE THE PRICE/S FIXED AND FIRM?	Yes _____	No _____	RATE OF EXCHANGE: _____	<b>FOB VALUE:</b> _____ <b>Freight Insurance:</b> _____
DISCOUNT:		TRADE _____		(2) SETTLEMENT _____

<b>DO YOU ACCEPT ESKOM HOLDINGS SOC LTD GENERAL CONDITIONS OF PURCHASE?</b>		Yes _____	No _____
The invitee/tenderer hereby confirms that a copy of the Integrity Pact was obtained, that it understands the provisions thereof and, undertakes to abide by the provisions thereof in any dealings it may have with Eskom and that the signed Integrity Pact Declaration is submitted as a tender returnable by the stipulated deadline.			
<b>SIGNATURE OF BIDDER</b>	..... .....	<b>DATE</b>	.....
CAPACITY UNDER WHICH THIS BID IS SIGNED ( <b>Attach proof of authority to sign this bid; e.g. resolution of directors, etc.</b> )			
<b>BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:</b>			
DEPARTMENT/ PUBLIC ENTITY		Eskom Holdings SOC Ltd	
CONTACT PERSON		Sandisiwe Mabaso	
TELEPHONE NUMBER	N/a FACSIMILE NUMBER N/a - E-MAIL ADDRESS <a href="mailto:mabasosz@eskom.co.za">mabasosz@eskom.co.za</a>		

**PART B**  
**TERMS AND CONDITIONS FOR BIDDING**

**1. BID SUBMISSION:**

- 1.1. BIDS MUST BE SUBMITTED BY THE STIPULATED TIME TO THE CORRECT EMAIL ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED VIA TO [Informaltendering@eskom.co.za](mailto:Informaltendering@eskom.co.za) AS PER SUBMISSION INSTRUCTIONS DETAILED IN PART A
- 1.3. BIDDERS MUST REGISTER ON THE CENTRAL SUPPLIER DATABASE (CSD) TO UPLOAD MANDATORY INFORMATION NAMELY: ( BUSINESS REGISTRATION/ DIRECTORSHIP/ MEMBERSHIP/IDENTITY NUMBERS; TAX COMPLIANCE STATUS; AND BANKING INFORMATION FOR VERIFICATION PURPOSES). B-BBEE CERTIFICATE OR SWORN AFFIDAVIT FOR B-BBEE MUST BE SUBMITTED TO BIDDING INSTITUTION.
- 1.4. WHERE A BIDDER IS NOT REGISTERED ON THE CSD, MANDATORY INFORMATION NAMELY: (BUSINESS REGISTRATION/ DIRECTORSHIP/ MEMBERSHIP/IDENTITY NUMBERS; TAX COMPLIANCE STATUS MAY NOT BE SUBMITTED WITH THE BID DOCUMENTATION. B-BBEE CERTIFICATE OR SWORN AFFIDAVIT FOR B-BBEE MUST BE SUBMITTED TO BIDDING INSTITUTION.
- 1.5. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER LEGISLATION OR SPECIAL CONDITIONS OF CONTRACT.
- 1.6. ESKOM RESERVES THE RIGHT TO AWARD A TENDER TO A SUPPLIER WHO MAY NOT BE THE HIGHEST SCORING OR HIGHEST RANKED SUPPLIER FOR THE PURPOSE OF MAXIMISING RECOGNITION OF BLACK OWNERSHIP, BLACK MANAGEMENT CONTROL, SKILLS DEVELOPMENT AND/OR PREFERENTIAL PROCUREMENT IN LINE WITH SECTION (2)(1)(F) OF PPPFA.
- 1.7. ESKOM RESERVES ITS RIGHT TO TERMINATE THIS PROCUREMENT PROCESS IN THE EVENT THAT INFORMATION COMES TO LIGHT (IN WHATEVER WAY OR FORM) THAT IT MAY SUFFER SERIOUS REPUTATIONAL DAMAGE BY DOING BUSINESS WITH THE SUPPLIER OR, ALTERNATIVELY, INFORMATION IS RECEIVED BY ESKOM THAT THE SUPPLIER (HOWSOEVER), WHETHER DIRECTLY OR INDIRECTLY, MAY BE INVOLVED IN CORRUPT PRACTICES AND ACTIVITIES IN VIOLATION OF THE PREVENTION AND COMBATING OF CORRUPT PRACTICES ACT, NO.12 OF 2004 (PRECCA), THE PREVENTION OF ORGANISED CRIME ACT, 121 OF 1998 (POCA), THE PUBLIC FINANCE MANAGEMENT ACT, NO. 1 OF 1999 (PFMA) AND THE CONSTITUTION.

**2. TAX COMPLIANCE REQUIREMENTS**

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.
- 2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE [WWW.SARS.GOV.ZA](http://WWW.SARS.GOV.ZA).
- 2.4 BIDDERS MAY ALSO SUBMIT A PRINTED TCS TOGETHER WITH THE BID.
- 2.5 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE PROOF OF TCS / PIN / CSD NUMBER.
- 2.6 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.

**3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS**

- 3.1. IS THE BIDDER A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? ☐ YES ☐ NO
- 3.2. DOES THE BIDDER HAVE A BRANCH IN THE RSA? ☐ YES ☐ NO
- 3.3. DOES THE BIDDER HAVE A PERMANENT ESTABLISHMENT IN THE RSA? ☐ YES ☐ NO
- 3.4. DOES THE BIDDER HAVE ANY SOURCE OF INCOME IN THE RSA? ☐ YES ☐ NO

IF THE ANSWER IS “NO” TO ALL OF THE ABOVE, THEN, IT IS NOT A REQUIREMENT TO OBTAIN A TAX COMPLIANCE STATUS / TAX COMPLIANCE SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.

NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

## PART C

### TENDER RETURNABLES

#### C.1 Attachments issued with this OLT Invitation to Tender

- **Attachment 1:** SBD1 - Invitation to Bid
- **Attachment 2:** Integrity Pact Declaration – Annexure A
- **Attachment 3:** Annexure A SBD4 Bidders Declaration
- **Attachment 4:** Preference Claim Form – Annexure J
- **Attachment 5:** Eskom Standard Conditions of Tender
- **Attachment 6:** Eskom’s General Conditions of Purchase
- **Attachment 7:** BBBEE Guidelines and Templates
- **Attachment 8:** Tender Guidelines
- **Attachment 9:** SBD 6.1 : In terms of PPR 2017-1

#### NOTE: **TENDER RETURNABLES**

Please ensure that the tender returnables listed hereunder are submitted as per stipulated deadlines as non-compliance with mandatory tender returnables at RFQ closing deadline will result in disqualification (except where these are required for scoring /ranking purposes only). Non-compliance with mandatory returnables due at contract/order award stage will impact award.

- Integrity Pact Declaration **(at RFQ closing deadline)**
- SBD 1- Invitation to Bid **(at RFQ closing deadline)** Applicable for all suppliers
- Annexure A SBD4 Bidders Declaration
- Copy of valid current SARS certificate **(at contract/order award)** Applicable for Foreign suppliers who are required to be tax compliant but have not submitted a CSD/eFiling Pin number.
- **\*Certified copy of a Valid original B-BBEE certificate (at RFQ closing deadline)**
- Letter of Good Standing (COIDA) **(at contract/order award)**
- **Data Sheets (at RFQ closing deadline)**
- SBD 6.1 : In terms of PPR 2017-1

#### C.2 EVALUATION CRITERIA

For transactions above **R30 000** up to **R50M** (inclusive of VAT) Price and B-BBEE Preferential Point Scoring will be based on the **80/20** allocation aligned to the PPPFA Regulations 2017;

For transactions less than **R30 000** (inclusive of VAT); the Preferential Point Scoring is not mandatory and only Price may be used (or state any other criteria to be used).

Evaluation Criteria:

Basic Compliance (mandatory – per returnable list)

Functionality (not applicable for this tender)

Price & BBBEE (80/20 principal)

Objective Criteria (per returnable list)

##### C.2.1: **PRICE AND PREFERENCE (PPPFA REQUIREMENTS)**

###### C.2.1.1 Price Evaluation (80 points)

Adjudication Criteria		Points
Price Evaluation <b>80/20</b>	$P_s = 80 \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$	80

**Where:**

- Ps= Points scored for price of Bid under consideration  
 Pt = Rand value of Bid under consideration  
 Pmin = Rand value of lowest acceptable Bid

**C.2.1.2 B-BBEE EVALUATION (20 points)**

- Tenderers are required to submit original and valid B-BBEE Status Level Verification Certificates or certified copies thereof together with their bids to substantiate the B-BBEE claims.
- Tenderers who do not submit B-BBEE Status Level Verification Certificates or non-compliant contributors to B-BBEE will not qualify for preference points for B-BBEE however will not be disqualified from the tender process. Such a tenderer will score points out of 80 for price and 0 points out of 20 for B-BBEE.
- Points will be awarded to a tenderer for attaining the B-BBEE Status Level of contribution in accordance with the table below:

The following preference point system is applicable to this tender:

- the 80/20 system for requirements with a Rand value less than R1 000 000 (all applicable taxes included)

B-BBEE Status Level of Contributor	Number of Points (80/20 System)
1	20
2	18
3	16
4	12
5	8
6	6
7	4
8	2
Non - Compliant Contributor	0

A trust consortium or joint venture must obtain and submit a consolidated B-BBEE Status Level Verification Certificate with their bids.

**NOTE:** No submission of BBBEE certificate at the tender submission stage will result in the tenderer not being allocated points for the BBBEE section.

**The points scored for price will be added to the points scored for B-BBEE status level of contribution to obtain the tenderers total points scored out of a 100.**

**Please note:**

- Attachment 2** and submission of BBBEE certificate/Affidavit must be submitted in order to claim preference points
- Eskom reserves the right to negotiate with preferred bidders after a competitive bidding process or price quotations; should the tendered prices not be deemed market-related.**
- Preference will be given to BBBEE Level 1 to 4 suppliers, and thereafter follow the Eskom's hierarchy of supplier preference as (set out in 3.2.4) of the Eskom Procurement and Supply Chain Management Procedure 32-1034 Rev 4.**

### C.3 TENDER RETURNABLES

Please ensure that the tender returnable listed hereunder are submitted as per stipulated deadlines as non-compliance with mandatory tender returnable at RFQ closing deadline will result in disqualification (except where these are required for scoring /ranking purposes only).

Non-compliance with mandatory returnables due at contract/order award stage will impact award.

#### C.3.1 BASIC COMPLIANCE

Returnables	MANDATORY AT CLOSING	MANDATORY PRIOR TO AWARD (Objective Requirements)	SUBMITTED (Supplier checklist)
Offer invitation Form SBD1: Part A-D completed	YES		YES / NO
Annexure A (SBD) 4 Bidders Declaration	YES		YES / NO
<b>Attachment 1:</b> Integrity Pact Declaration – Annexure A	YES		YES / NO
<b>Attachment 2:</b> Preference Claim Form <i>Applicable if claiming preference points. Failure to submit will result in a zero score but will not disqualify submission – Annexure J</i>	YES		YES / NO / Not applicable
Copy of Coida / Letter of Good Standing	YES		YES / NO
Copy of Tax Clearance Certificate	YES		YES / NO
Copy of valid BBBEE Certificate / Affidavit ( <b>CERTIFIED</b> )	YES		YES / NO
Are you the accredited representative in South Africa for the goods offered?		YES	YES / NO
Attach proof of authority to sign this bid; e.g. resolution of directors, etc.)		YES	YES / NO
SBD 6.1 : In terms of PPR 2017-1	YES		
Technical Data Sheet	Yes		YES / NO
<b>Attachment 3:</b> Eskom Standard Conditions of Tender	For your info		
<b>Attachment 4:</b> Eskom's General Conditions of Purchase	For your info		
<b>Attachment 5:</b> BBBEE Guidelines	For your info		
<b>Attachment 6:</b> Tender Guidelines	For your info		

#### C.3.1: FUNCTIONAL ANALYSIS

##### Technical Evaluation Criteria

Technical tender returnable documents for evaluation (Description)		
1	Equipment must be brand specific from PR Electronics with the exact specification provided.	80%
2	The technical Data sheet provided	10%
3	Delivery date must be as soon as possible.	10%
<b>TOTAL POINTS</b>		<b>100%</b>

#### C.3.2: PRICE

PRICE LIST						
------------	--	--	--	--	--	--

DESCRIPTION ADDITIONAL SUPERVISION AND LABOUR IF REQUIRED	Text	Material Numbers	Unit of Measure	Price Per Unit	Qty	Total
	TRANSMITTER TEMP:4-20 MA;O/P AS REQUIRED		EA		50	
TOTAL EXCLUDING VAT						
TOTAL INCLUDING VAT						

### Scope of work

#### Scope of work/supply

Supply new original equipment exactly as per the description and specification.

#### Specification of Product or Goods

<b>PUCK: 2-wire programmable transmitter (Analogue temperature transmitter from PR Electronics)</b>	<b>Application</b> Linearized temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 sensor. Conversion of linear resistance variation to a standard analog current signal, for instance from valves or Ohmic level sensors.	<b>Quantity X 50</b>
---	--	--------------------------



**Technical characteristics**

Within a few seconds the user can program PR5333A to measure temperatures within all RTD ranges defined by the norms.  
The RTD and resistance inputs have cable compensation for 3-wire connection.

**Mounting / installation**

For DIN form B sensor head or DIN rail mounting with the PR fitting type 8421.

**Environmental Conditions**

Operating temperature..... -40°C to +85°C  
Calibration temperature..... 20...28°C  
Relative humidity..... < 95% RH (non-cond.)  
Protection degree (encl./terminal) ..... IP68 / IP00

**Mechanical specifications**

Dimensions..... Ø 44 x 20.2 mm  
Weight approx..... 50 g  
Wire size..... 1 x 1.5 mm<sup>2</sup> stranded wire  
Screw terminal torque..... 0.4 Nm  
Vibration..... IEC 60068-2-6  
2...25 Hz..... ±1.6 mm  
25...100 Hz..... ±4 g

**Common specifications****Supply**

Supply voltage..... 8.0...35 VDC  
Internal power dissipation..... 25 mW...0.8 W

**Response time**

Response time (programmable)..... 0.33...60 s  
Voltage drop..... 8.0  
VDC Warm-up time..... 5 min.  
Programming..... Loop Link  
Signal / noise ratio..... Min. 60 dB  
Accuracy..... Better than 0.1% of sel. range  
Signal dynamics, input..... 19 bit  
Signal dynamics, output..... 16 bit  
Effect of supply voltage change.....  
< 0.005% of span / VDC  
EMC immunity influence..... < ±0.5% of span

**Input specifications****Common input specifications**

Max. offset..... 50% of selected max. value

**RTD input**

RTD type..... Pt100, Ni100, lin. R  
Cable resistance per wire..... 10 Ω (max.)  
Sensor current..... > 0.2 mA, < 0.4 mA  
Effect of sensor cable resistance

	<p>(3-wire) ..... &lt; 0.002 <math>\Omega</math> / <math>\Omega</math>  Sensor error detection..... Yes</p> <p><b>Linear resistance input</b>  Linear resistance min.....max..... 0 <math>\Omega</math>...10000 <math>\Omega</math></p> <p><b>Output specifications</b></p> <p><b>Current output Signal</b>  range..... 4...20 mA Min.  signal range..... 16 mA  Load (@ current output) ... <math>\leq (V_{Supply} - 8) / 0.023 [\Omega]</math>  Load stability..... <math>\leq 0.01\%</math> of span / 100 <math>\Omega</math>  Sensor error indication.... Programmable 3.5...23 mA  NAMUR NE43 Upscale/Downscale... 23 mA / 3.5 mA</p> <p><b>Common output specifications</b>  Updating time..... 135 ms  of span..... = of the presently selected range</p> <p><b>I.S. / Ex marking</b>  ATEX..... II 3 G  Ex nA [ic] IIC T6...T4 Gc, II 3 G Ex ec [ic] IIC T6...T4  Gc, II 3 G Ex ic IIC T6...T4 Gc, II 3 D Ex ic IIIC Dc</p> <p>IECEEx..... Ex nA  [ic] IIC T6...T4 Gc, Ex ec [ic] IIC T6...T4 Gc, Ex ic IIC  T6...T4 Gc, Ex ic IIIC Dc</p> <p>CSA..... Cl. I,  Div. 2, Gp. A, B, C, D T6...T4, Ex nA[ic] IIC T6...T4  Gc</p> <p>INMETRO..... Ex nA  [ic] IIC T6...T4 Gc, Ex ic IIC T6...T4 Gc, Ex ic IIIC Dc</p> <p><b>Observed authority requirements</b>  EMC.... 2014/30/EU &amp; UK SI 2016/1091  ATEX....2014/34/EU &amp; UK SI 2016/1107  RoHS.... 2011/65/EU &amp; UK SI 2012/3032  EAC.... TR-CU 020/2011  EAC Ex..... TR-CU 012/2011</p> <p><b>Approvals</b>  DNV Marine..... TAA0000101  ATEX..... DEKRA 20ATEX0106X  IECEEx..... DEK 20.0062X  CSA..... 1125003  INMETRO..... DEKRA 16.0014 X  EAC Ex..... RU C-DK.HA65.B.00355/19</p>	
--	---	--

TRANSMITTER, TEMPERATURE: RANGE: 4-20 MA; OUTPUT: AS REQUIRED A; SUPPLY: 8.0 TO 35 V DC; TYPE: 2 WIRE PROGRAMMABLE SENSOR; SPECIFICATION: PR 5333A

Linearized temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 sensor.

Conversion of linear resistance variation to a standard analog current signal, for instance from valves or Ohmic level sensors.

#### Technical characteristics

Within a few seconds the user can program PR5333A to measure temperatures within all RTD ranges defined by the norms.

The RTD and resistance inputs have cable compensation for 3-wire connection.

#### Mounting / installation

For DIN form B sensor head or DIN rail mounting with the PR fitting type 8421.

#### Environmental Conditions

Operating temperature -40°C to +85°C

Calibration temperature 20...28°C

Relative humidity < 95% RH (non-cond.)

Protection degree (encl./terminal) IP68 / IP00

#### Mechanical specifications

Dimensions Ø 44 x 20.2 mm

Weight approx. 50 g

Wire size 1 x 1.5 mm<sup>2</sup> stranded wire

Screw terminal torque 0.4 Nm

Vibration IEC 60068-2-6

2...25 Hz ±1.6 mm

25...100 Hz ±4 g

#### Common specifications

##### Supply

Supply voltage 8.0...35 VDC

Internal power dissipation 25 mW...0.8 W

##### Response time

Response time (programmable) 0.33...60 s

Voltage drop 8.0 VDC

Warm-up time 5 min.

##### Programming Loop Link

Signal / noise ratio Min. 60 dB

Accuracy Better than 0.1% of sel. range

Signal dynamics, input 19 bit

Signal dynamics, output 16 bit

Effect of supply voltage change < 0.005% of span / VDC

EMC immunity influence < ±0.5% of span

#### Input specifications

##### Common input specifications

Max. offset 50% of selected max. value

##### RTD input

RTD type Pt100, Ni100, lin. R

Cable resistance per wire 10 Ω (max.)

Sensor current > 0.2 mA, < 0.4 mA

Effect of sensor cable resistance (3-wire) < 0.002 Ω / Ω

Sensor error detection Yes

##### Linear resistance input

Linear resistance min....max. 0 Ω...10000 Ω

#### Output specifications

##### Current output

Signal range 4...20 mA

Min. signal range 16 mA

Load (@ current output)  $\leq (V_{\text{supply}} - 8) / 0.023 \text{ } [\Omega]$

Load stability  $\leq 0.01\%$  of span / 100  $\Omega$

Sensor error indication Programmable 3.5...23 mA

NAMUR NE43 Upscale/Downscale 23 mA / 3.5 mA

Common output specifications

Updating time 135 ms

of span = of the presently selected range

I.S. / Ex marking

ATEX II 3 G Ex nA [ic] IIC T6...T4 Gc, II 3 G Ex ec [ic] IIC T6...T4 Gc, II 3 G Ex ic IIC T6...T4 Gc, II 3 D Ex ic IIIC Dc

IECEx Ex nA [ic] IIC T6...T4 Gc, Ex ec [ic] IIC T6...T4 Gc, Ex ic IIC T6...T4 Gc, Ex ic IIIC Dc

CSA Cl. I, Div. 2, Gp. A, B, C, D T6...T4, Ex nA[ic] IIC T6...T4 Gc

INMETRO Ex nA [ic] IIC T6...T4 Gc, Ex ic IIC T6...T4 Gc, Ex ic IIIC Dc

[S.Z Mabaso](#)

---

Sandisiwe Mabaso

Assistant Procurement Officer

Group Commercial – Tactical Sourcing

Peaking Generation

Distribution Customer Service Office

15 Hunters Road Ladysmith 3370

T +27(0) 36 3244

E-mail [mabasosz@eskom.co.za](mailto:mabasosz@eskom.co.za)