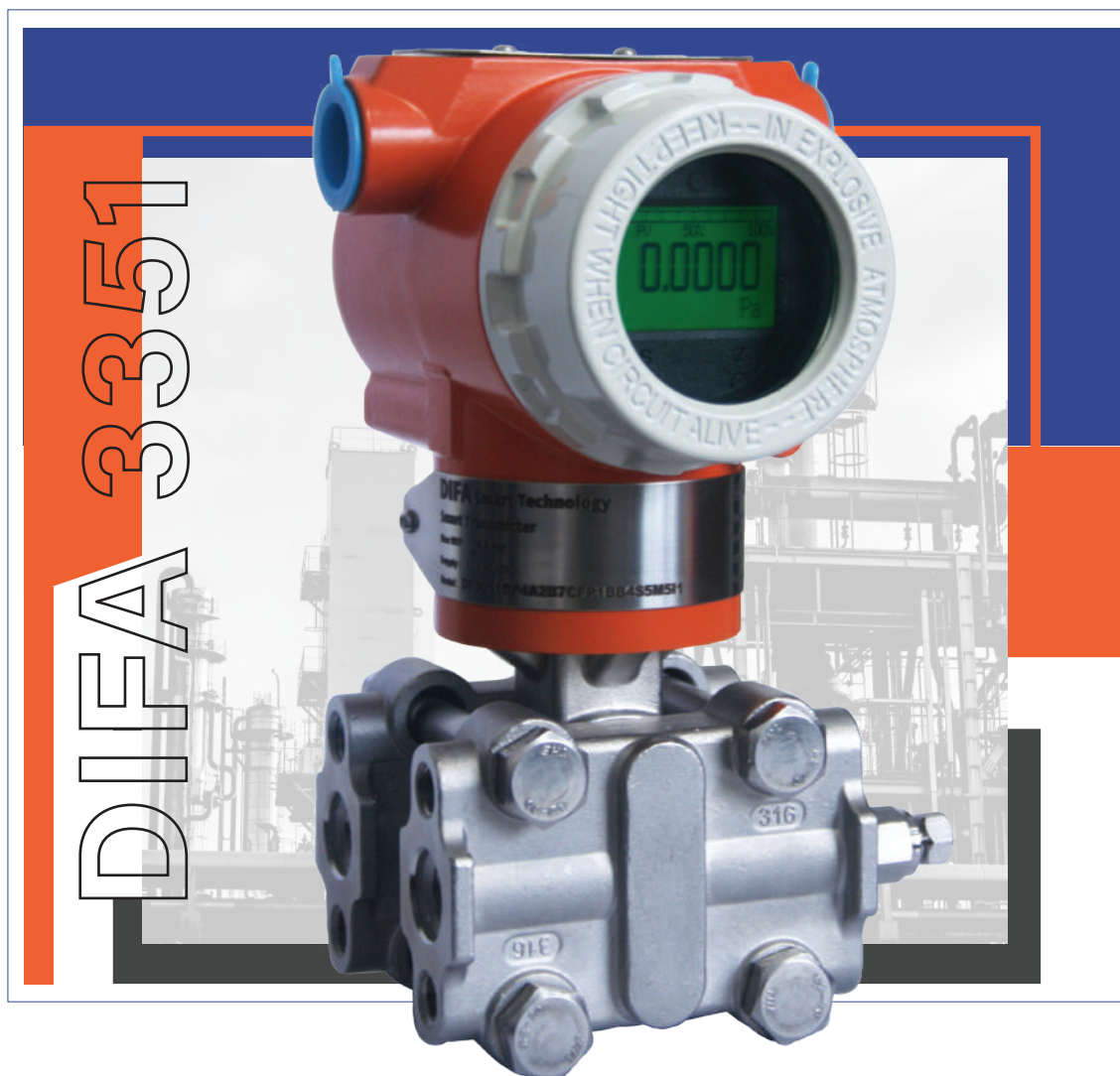


DIFA 3351 Series Differential Pressure Transmitter



DIFA3351 Series

"DIFA3351 Series Differential Pressure Transmitter With more variety and efficiency is a Good Solution for Control Plants and System problem diagnosis."



GENERAL

DIFA 3351 DP/GP Series is a digital differential pressure transmitter designed for industrial pressure measurement applications.

The DF 3351 can be configured to provide integrated solutions for a broad range of pressure and flow measurement applications.

FEATURES

Updating time of current: 90 ms, with increased accuracy and greater stability

Two-year stability of 0.1%, 0.075% accuracy; parameter setting via keypad directly

4–20 mA output plus direct digital HART communication

Automatic zero calibration by press-button

Explosion-proof and weatherproof housing, IP65

STANDARD SPECIFICATION

Process Fluid	Liquid, Gas of vapor	Display	5 Digits programmable & 0-100% Bargraph
Application	Absolute Pressure, Gauge Pressure Differential Pressure	Display Unit	Standard 22 different engineering unit 5 Digits programmable for special unit
Measuring Range	0-0.16 KPa~0-1.0 KPa (Minimum) 0-4.0 MPa~0-20.0 MPa (Maximum)	Keypad	3 Internal keys for programming and output setting
Accuracy	+/- 0.075 & 0.1 % of span	Current Output	4 - 20 mA 2 wires with Hart signal (Compatible) Load: Rohm=(Vdc-9) *50
Stability	+/- 0.15% of URL for 2 years	Power Supply	9 - 32 VDC
Working Temperature	-25 to +95 °C	Damping	0 - 32 seconds
Max. Pressure	40 MPa	Response Time	200 mS
Flange/Adapter	Flange/Adapter: Stainless Steel 304 Stainless Steel 316	Mounting	Bracket on 2" Pipe
Drains/Vents	Drains/Vents: Stainless Steel 304 / Stainless Steel 316	Humidity Limit	0 to 100% Relative Humidity
Diaphragm	Diaphragm: Stainless Steel 316L / Hastelloy	Turn on Time	2 Seconds with minimum damping
Wetted O-Ring	Buna N / Viton / PTFE	Zero Calibration	Automatic zero calibration by press-button
Bolts & Nuts	Carbon Steel / Stainless Steel 316	Cable Entry	M20 Conduit Threads / 1/2" NPT (Female)
Mounting Bracket	Carbon steel / Stainless Steel 304 / 316	Temperature Effect	+/-0.18% ~ +/-0.5% of span per 20 °C
Name / Tag Plate	Stainless Steel 304 / Stainless Steel 316	Vibration Effect	+/-0.05% of URL per g to 200 Hz in any axis
Housing	Low copper cast aluminum alloy with polyurethane, light orange paint / Stainless steel	EMI/RFI Effect	Follow SAMA PMC 33.1 from 20 to 1000 MHz and for field strengths up to 30 V/m
Fill Fluid	Silicone / Fluorine Oil	Ambient Temperature	-25 to +80 °C
Protection Class	IP65 (Standard) Intrinsically Safe EEx ia IIC T5 (Standard) Explosion proof Ex D IIB T5	Dimensions	102mm (W) * 188mm (H) * 130mm (D)
		Weight	3.5 Kg

DP Transmitter

MODEL Codes

Item	Code	Specification
DF3351DP		Different Pressure Transmitter
DF3351GP		Gauge Different Pressure Transmitter
DF3351AP		Absolut Different Pressure Transmitter
Measurement Range	0	0-0.014~0.217 psi (-0.001~0.015 bar), (0.40~6.02 inH2O)
	1	-14.5~1.08 psi (-1~0.075 bar), (-401.47~30.110 inH2O)
	2	-14.5~5.42 psi (-1~0.374 bar), (-401.47~150.151 inH2O)
	3	-14.5~27.09 psi (-1~1.86 bar), (-401.47~746.7420 inH2O)
	4	-14.5~100.07 psi (-1~6.9 bar), (-401.47~2770.1720 inH2O)
	5	-14.5~299.9 psi (-1~20.68 bar), (-401.47~8302.486 inH2O)
	6	-14.5~999.31 psi (-1~68.9 bar), (-401.47~27661.573 inH2O)
	7	-14.5~2999.3 psi (01~206.80 bar), (0~83024.867313 inH2O)
	C	Customized
Output	A	4-20mA, HART Protocol, Linear Output
	B	4-20mA, HART Protocol, Square Root Output (Range≥5kpa)
Diaphragm Material	2	Stainless Steel 316L
	3	Hastelloy C
	G	Stainless Steel 316L + Gold Coated
	C	Customized
Fill Fluid	1	Silicone Oil
	2	Fluorine Oil
Housing Material/Cable Entry	A	Epoxy-coated ALUMINIUM/ 1/2 NPT
	B	Epoxy-coated ALUMINIUM/ M20*1.5
	S	Stainless steel 1/2"NPT
	K	Stainless steel M20*1.5
Body/Process Connection Material	B1	Stainless Steel 304
	B2	Stainless Steel 316
Process Connection	CF	1/4" NPT F
Integral Assembly	N0	None
	S1	Assemble to one 1199 Diaphragm seal
	S2	Assemble to two 1199 Diaphragm seal
	S4	Assemble to Integral 3 Valve Manifold
	S5	Assemble to Integral 5 Valve Manifold
	ACC	Other accessories(Cooling element, Syphon, ...)

DP Transmitter

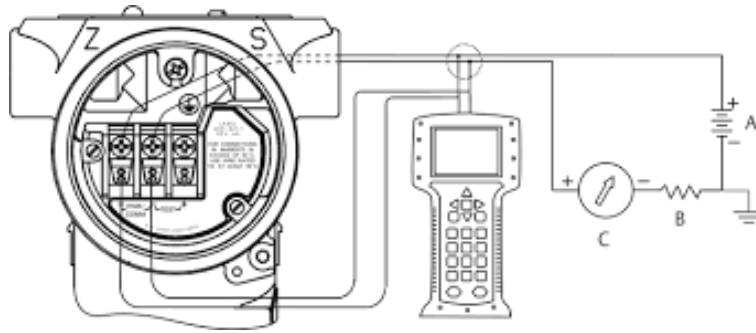
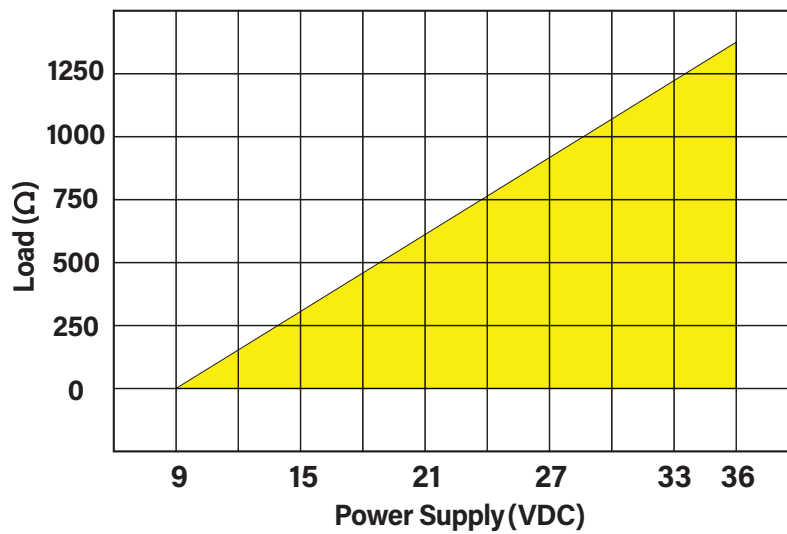
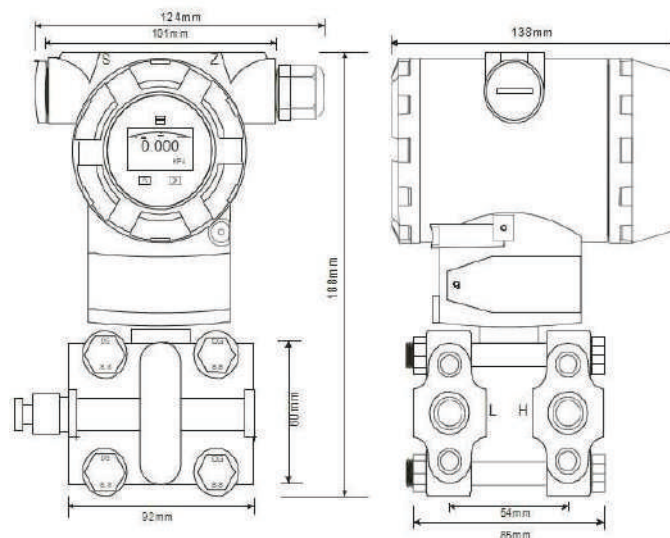
MODEL Codes

Item	Code	Specification
Drain Hole	B	Back of process flange or none
	U	Process flange side upper
	L	Process flange side lower
Wetted O-ring Material	7	Buna-N (NBR)
	6	Viton (FKM) (Temperature ≥ -20 C)
	5	Low Temperature Viton (FKM-GFLT)
Maximum Pressure Limit	P0	140 bar (40bar for range 2)
	P1	250 bar
	P2	320 bar
	P3	450 bar
	PC	600 bar
Mounting Bracket	B0	None
	B4	Tube type 2-in. pipe (stainless steel)
	B6	Wall mounting bracket (carbon steel)
	B7	Wall mounting bracket (stainless steel)
Product Certifications	I1	Intrinsically Safe (Exia IIC T4~T6) ATEX
	E8	Explosion proof (Exd IIC T6 Gb) ATEX
	K8	Intrinsically Safe (Exia) & Explosion proof (Exd)
	WO	Without Certification
Display	M5	LCD Display
Optional	Q4	Calibration Certificate
	Q8	Material Certificate
	Q9	Hydrostatic Pressure
	D1	Stainless steel drain valve or screw (2pcs)
	C1	1/2" NPT female waist flange (2sets)
	C2	M20*1.5 male thread T joint (2sets)
	C3	1/2" NPT-M20*1.5-14 pressure pipe (2sets)
	C4	M20*1.5 T joint -14 pressure pipe (2sets)
Nameplate	K1	Degreasing treatment
	Y2	SST Nameplate

DF 3351 DP

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

Example: DF 3351 DP-2-A-2-1-B-B2-CF-N0-B-7-P0-B0-I1-M5-Q4

WIRING DIAGRAM**SUPPLY VOLTAGE VS LOOP LOAD****DIEMENSION**

Certificato di esame UE del tipo
EU-type examination certificate
n. ECM 24 ATEX-B UN60
 Rilasciato ai sensi della direttiva 2014/34/UE – Allegato III – Modulo B
 Issued according to 2014/34/UE Directive – Annex III – Module B

Richiedente
Applicant
 Ragione Sociale Dibagaran Farayand Engineering Company (DIFACO)
 Company Name
 Indirizzo No7, East Goltzar Alley, Adli Blvd., Pounak, Tehran, Iran
 Address
 Apparecchiatura Pressure Transmitter (Differential Pressure Transmitter)
 Equipment
 Modelli DF3351 Series
 Models

Questa apparecchiatura o sistema di protezione e le sue eventuali varianti accettate sono descritte nel presente Certificato e sono descritte in this Certificate and its Annex.
 This equipment or protective system and any acceptable variation variants accepted are described in this Certificate and its Annex.

L'ECM, Organismo Notificato n° 1282 in conformità all'art. 17 della Direttiva 2014/34/UE del Parlamento europeo e del Consiglio del 26 febbraio 2014, certifica che questa apparecchiatura o sistema di protezione verificata secondo la procedura di cui all'allegato III, Modulo B, è conforme ai requisiti essenziali di sicurezza e salute per il progetto e la costruzione di apparecchiature o sistemi di protezione destinati ad essere utilizzati in atmosfere potenzialmente esplosive, definiti nell'allegato II della Direttiva.
 The ECM, Notified Body No. 1282 in accordance with Article 17 of Directive 2014/34/UE of the European Parliament and of the Council of 26 February 2014, certifies that this equipment or protective system was tested according to the procedure set out in Annex III, Module B, complies with the essential health and safety requirements for the project and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II of the Directive.

Le verifiche ed i risultati di prova sono registrati nel rapporto n° 0102-2024-UN60.
 The examination and test results are recorded in confidential report no. 0102-2024-UN60.

I requisiti essenziali di sicurezza e salute sono assicurati dalla rispondenza alle Norme applicate: EN 50079-0:2018, EN 60079-1:2014, EN 60079-11:2012.
 The essential health and safety requirements are assured by compliance with applied Standard: EN 50079-0:2018, EN 60079-1:2014, EN 60079-11:2012.

Questo Certificato di esame UE del tipo è relativo soltanto al design, progetto, all'esame ed alle prove dell'apparecchiatura o sistema di protezione specificato in accordo con la Direttiva 2014/34/UE. Further requirements of the Directive shall be Ulteriori requisiti di questa Direttiva si applicano al processo di produzione e fornitura dell'apparecchiatura o sistema di protezione: questi requisiti non sono oggetto del presente certificato.
 This EU-type examination certificate relates only to the design, project, examination and tests specified equipment in accordance with protection specified in accordance with the Directive 2014/34/UE. Further requirements of the Directive shall be Ulteriori requisiti di questa Direttiva si applicano al processo di produzione e fornitura dell'apparecchiatura o sistema di protezione: these requirements are not covered by this certificate.

L'apparecchiatura o il sistema di protezione deve riportare i seguenti contrassegni:
 The equipment shall be marked with the following symbols:

II 2 G Ex db IIC T6 Gb
II 1 G Ex ia IIC T1 T6 Ga
 Protection Level: IP 66

Valsamoggia (BO)
 Data - Date 01/04/2024
 Timbro
 Scadenza - Expiry date 31/03/2029

Firma autorizzata
 Authorized signature
 Amanda Payne
 (Deputy Manager)

Test Report / Technical Construction File no. DF20240320-25ATEX

Questo certificato, incluso l'allegato, può essere riprodotto solo integralmente e senza alcuna variazione.
 This certificate, annex included, can only be reproduced in its entirety and without any change.

Cer. 11 ATEX AII. III Rev. 1 – 06/03/2017

Ente Certificazione Macchine srl
 Via Ca' Bella 242 - Loc. Castello di Serravalle - 40053 Valsamoggia (BO)
 ☎ +39 0516705141 ☎ +39 0516705156 ✉ info@entecma.it www.entecma.it

Page 1 di 2

شهادة - 증명서 - Certificate - 證書 - Сертификат

SIL
Functional Safety Certificate

No. 41231013.DFEC80
 Test Report / Technical Construction File no. SIL-YLBSZ5(23)-51

Certificate's Holder: Dibagaran Farayand Engineering Company (DIFACO)
 No. 7, East Goltzar Alley, Adli Blvd., Pounak, Tehran, Iran

Product: Pressure Transmitter (Differential Pressure Transmitter)

Model(s): DF3351 Series

Standard: Has been assessed per the relevant requirements of:
 IEC 61508:2010 Part 1-7
 And meets requirements providing a level of integrity for:
 Systematic Capability (SC) SIL 3 (3 Capable)
 Random Capability: Type B Element
 SIL 2 @ HFT=0, SIL 3 @ HFT=1, Route 2+
 PFD and Architecture/Contents must be verified each application

Safety function:
 The pressure transmitter measures the level, density and pressure of liquids, gases or vapors and converts them into 4-20 mA DC signal outputs.
 * It is suitable to be safety function according to the description and the configuration defined in Annex I

Verification Mark:

Remark: This SIL Verification of Compliance has been issued on a voluntary basis. ECM confirms that a Test Report is existent for the above listed product(s) and found to meet the requirements of above standards for application in safety related system up to Safety Level of SIL 3. The unit must be properly designed into a Safety Instrument Function as per the requirements in the Safety Manual. The Verification Mark shows active can be affixed on the product. It is NOT permitted to alter the Verification Mark in any way. In addition the Verification's holder is NOT allowed to transfer the Verification to third parties. This certificate can be checked for validity at: www.entecma.it

Date of issue 13 October 2023
Expiry date 12 October 2028

For online check:


Approver
 Ente Certificazione Macchine
 Legal Representative
 Luca Bedonni

Ente Certificazione Macchine
 Via Ca' Bella, 242 - 40053 Valsamoggia Loc. Castello di Serravalle (Bo) Italy
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بسمه تعالی

کارگروه ارزیابی شرکتها و موسسات دانشبنیان

تاییدیه شرکت‌های دانشبنیان

نام شرکت	مهندس دبیران فرایند	شناسه ملی	10102555842
استان	البرز	تاریخ تایید	1401/08/29
موزه فناوری	06- برق و الکترونیک، فوتونیک، مخابرات و سیستم‌های خودکار	نوع تایید	تولیدی نوع 2

- به موجب این تاییدیه، شرکت موسسه فوق الذکر بر اساس ارزیابی انجام شده طبق «آیین‌نامه اجرایی قانون حمایت از شرکتها و موسسات دانشبنیان» و «قانون حمایت از شرکتها و موسسات دانشبنیان» و «نقارهای نوآوریها و اختراعات»، بصورت شرکت موسسه دانشبنیان تایید شده است.
- این تاییدیه لزوماً به معنای تایید همه کالاها و خدمات شرکت به عنوان کالا و خدمات دانشبنیان نیست، بلکه ممکن است صرفاً برخی از کالاها و خدمات شرکت، مورد تایید کارگروه ارزیابی شرکتها و موسسات دانشبنیان قرار گرفته باشند.
- اعتبار و صحت این تاییدیه از آدرس pub.daneshbonyan.ir قابل استعلام است.
- این تاییدیه به صورت خودکار و از طریق سامانه دانشبنیان pub.daneshbonyan.ir صادر شده است.
- شرکت‌های تایید شده در کارگروه ارزیابی شرکتها و موسسات دانشبنیان، تا زمانی که تاییدیه آنها در فهرست سامانه دانشبنیان (pub.daneshbonyan.ir) قرار دارد، می‌توانند از مزایای قانون حمایت از شرکتها و موسسات دانشبنیان استفاده کنند و در صورت ارزیابی مجدد و عدم تایید شرکت، از این فهرست حذف خواهند شد.
- استفاده از هرگونه حمایت، منوط به استعلام دستگاه اجراییست. حمایت از، دبیرخانه کارگروه ارزیابی شرکتها و موسسات دانشبنیان و تأیید آن از سوی این دبیرخانه می‌باشد. در غیر این صورت دستگاه اجرایی ذیربط بر طبق قانون و مقررات مربوط مسئول خواهد بود. اجرای هر کدام از حمایت‌ها، مطابق دستورالعمل‌های اجرایی مراجع ذیربط می‌باشد.
- در صورت هرگونه تخلف در استفاده از تسهیلات مربوط توسط شرکت‌های تایید شده، مطابق مجازات‌های ماده ۱۱ قانون «حمایت از شرکتها و موسسات دانشبنیان» و «نقارهای نوآوریها و اختراعات» با آنها برخورد می‌شود.
- بر اساس مصوبه کارگروه ارزیابی شرکت‌های دانش بنیان، شرکت‌های تولیدی و نوپای نوع 2 با نوع 3 (استعد دانش بنیان)، مشمول معافیت مالیاتی نخواهند بود.

تاریخ چاپ تاییدیه: ۱۴۰۲/۰۸/۰۹

دبیرخانه کارگروه ارزیابی شرکتها و موسسات دانشبنیان

E.P.I.L.V.
 Energy and Power Industries Laboratories Co.

Assessment Report

Document No: LQF-708-05
 Date of Issue/Revise: 99/09/04
 Revision no: 00
 Page: 1 of 3

Section 1 - General

Assessment report number : EP.12222022

Prepared by + signature : M. Ghanbariha

Reviewed by + signature : S. Jamshidi

Approved by + signature : S.M. Misadi

Date of issue : December 22, 2022

Note:
 This assessment report includes:
 1- EXTR No.: HI-70013
 2- Supplementary Technical Documents No: DI- AT-12222022

Ex Testing Laboratory : EPIL Co.
 Address : Unit 12, No.2, Boujar Sefat Dead-End, Corner of Fariman St.,
 Bazorgmehr St., Vahid-Asr Ave., Tehran- Iran

Manufacturer : Dibagaran e farayand (Difaco)
 Address : Unit 2, No.9, Sanajee St., Karimkhan-e-zand, Tehran, Iran

Reference Standards : EN 60079-0: 2018, EN 60079-1: 2014

General remarks:
 The test results presented in this report relate only to the object tested.

Test and/or assessed item description:
 Equipment/Component : Pressure transmitter
 Model/type reference : DF3351
 Trademark : Difaco

Ex Code : Ex db IIC T6 Gb
 Rating :
 Rated voltage : 24 VDC
 Rated current : Max. 20 mA
 Rated power : Max. 0.65 W

ASSESSMENT REPORT REFERENCE: EP.12222022

Document validity status
 Obsolete ☐ Valid ☒