LABORATORY GENERAL TEST REPORT.

TEST REFERENCE No:	**G2097**
PRODUCT TESTED:	UK JK1 TPN 125A MID Meter Enclosed Extension Box {JKD1125MID}
ADDITIONAL INFORMATION:	New Product Introduction
CLIENT:	Hager Engineering
CLIENT CONTACT:	C.Howells
NUMBER OF SAMPLES:	1
DATE SAMPLES RECEIVED:	30/09/2019
DATE TEST STARTED:	30/09/2019
LABORATORY TEMPERATURE AND HUMIDITY:	20°C ± 5°C Ambient 50% ± 20% Relative humidity
REASON FOR TESTING:	New Product Introduction: JKD1125MID
TEST SPECIFICATION OUTLINE:	BS EN 61439-3:2012 incorporating corrigendum 2013/15 **Clause 10 Design Verification**
RESULT:	6.1 Assembly designation marking: **Complies by inspection** 10.2 Strength of materials & parts: No change: Complies 10.3 Degree of protection: **Complies by inspection** 10.4 Clearances & creepage distances: No change: Complies 10.5 Protection against electric shock: No change: Complies 10.6 Incorporation of switching devices & components: **Complies** 10.7 Internal electric circuits & connections: **Complies by inspection** 10.8 Terminals for external conductors: No change: Complies 10.9 Dielectric properties: No change: No change: Complies 10.10 Verification of temperature rise: No change: Complies. 10.11 Short-circuit withstand strength: No change: Complies 10.12 EMC: No change: Complies 10.13 Mechanical Operations: No change: Complies
OBSERVATION/COMMENTS:	Meter and CT located in bottom extension box
TEST ENGINEER:	D.Kelly
APPROVED BY:	I. Ellis
DATE REPORT PREPARED:	2nd October 2019

REPORT No: G2097 DATE OF TEST 30/09/2019

PRODUCT TESTED: JKD1125MID Meter

APPLICABLE STANDARD: BS EN 61439-3:2012 incorporating corrigendum 2013/15 Clause 10 Design Verification

REASON FOR TESTS: New Product Introduction of MID meter with Modbus and pulsed kWh outputs

Note 1:
ASSEMBLY tested (highlighted in yellow) is the smallest Distribution Board in the range and is the most onerous for design verification.

JK1 Panelboards:-

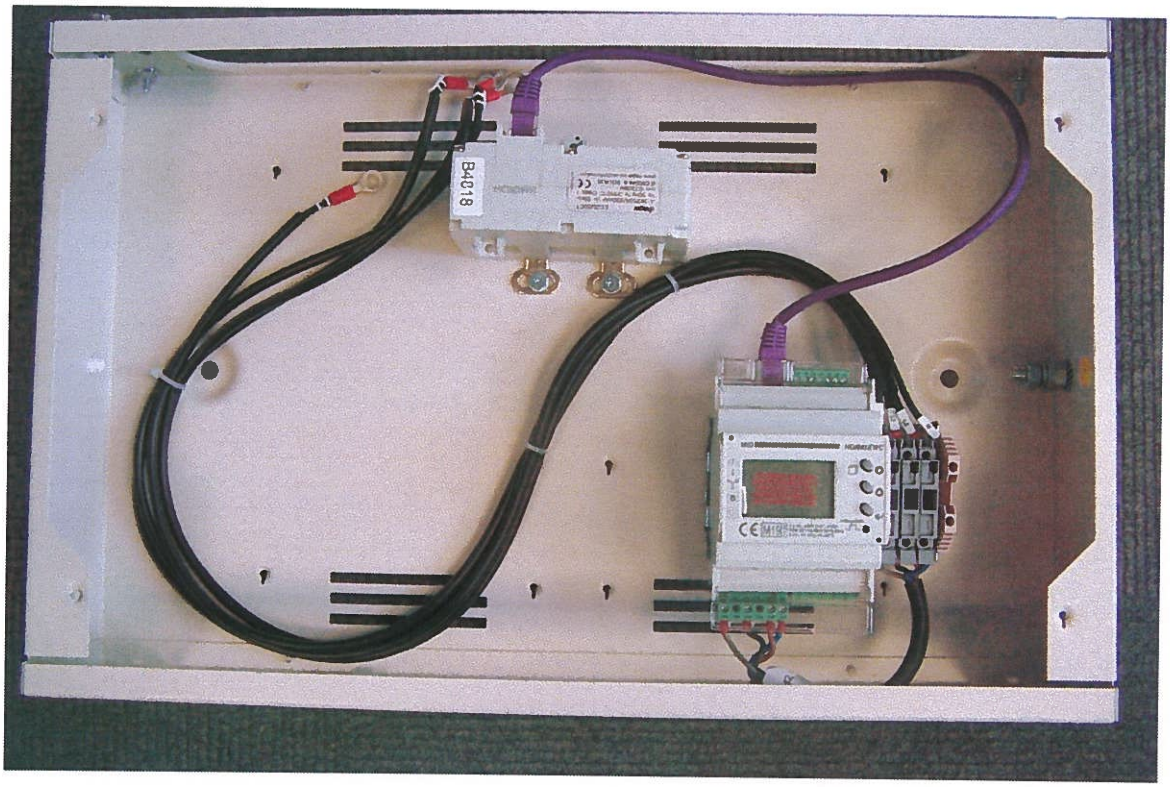
JK104B	JK1 TPN 125A DBO 4 Ways Plain Door
JK104BG	JK1 TPN 125A DBO 4 Ways Glazed Door
JK106B	JK1 TPN 125A DBO 6 Ways Plain Door
JK112BG	JK1 TPN 125A DBO 6 Ways Glazed Door
JK108B	JK1 TPN 125A DBO 8 Ways Plain Door
JK108BG	JK1 TPN 125A DBO 8 Ways Glazed Door
JK112B	JK1 TPN 125A DBO 12 Ways Plain Door
JK112BG	JK1 TPN 125A DBO 12 Ways Glazed Door
JK116B	JK1 TPN 125A DBO 16 Ways Plain Door
JK116BG	JK1 TPN 125A DBO 16 Ways Glazed Door
JK118B	JK1 TPN 125A DBO 18 Ways Plain Door
JK118BG	JK1 TPN 125A DBO 18 Ways Glazed Door
JK124B	JK1 TPN 125A DBO 24 Ways Plain Door
JK124BG	JK1 TPN 125A DBO 24 Ways Glazed Door
JKD1125MID	JK1 Meterpack 125A MID EW Pluggable Meter Kit

TEST ENGINEER: D.Kelly **Complies**

REPORT No:	G2097	DATE OF TEST	30/09/2019
PRODUCT TESTED:	JKD1125MID Meter		
APPLICABLE STANDARD:	BS EN 61439-3:2012 incorporating corrigendum 2013/15 Clause 10 Design Verification		
REASON FOR TESTS:	New Product Introduction of MID meter with Modbus and pulsed kWh outputs		

Kit reference : **JKD1125MID**

MID Approved meter (class 0.5)
CT 125A Class 1 (330mV)



TEST ENGINEER: D.Kelly

Complies

REPORT No: G2097 DATE OF TEST 30/09/2019

PRODUCT TESTED: JKD1125MID Meter

APPLICABLE STANDARD: BS EN 61439-3:2012 incorporating corrigendum 2013/15 Clause 10 Design Verification

REASON FOR TESTS: New Product Introduction of MID meter with Modbus and pulsed kWh outputs

Clause 6 Assembly designation marking

Carton label

125A Pulsed & ModBus MID
Meter Extension Box
125A a.c 50Hz 415V IP2XC
BS EN 61439-3

CE 9276

Hager Ltd-Hortonwood 50-TELFORD SHROPSHIRE-TF1 7FT-UK

JKD1125MID 5 015652 607004 1 X

Rating Label

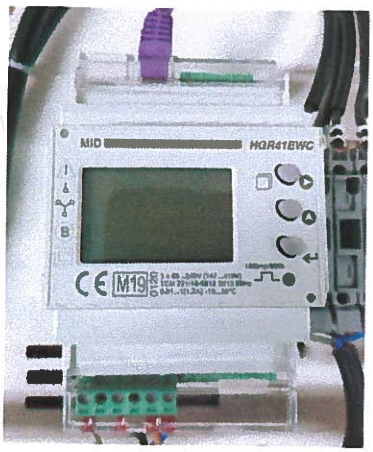
125A Pulsed & ModBus MID
Meter Extension Box
125A a.c 50Hz 415V IP2XC
BS EN 61439-3

CE 9276

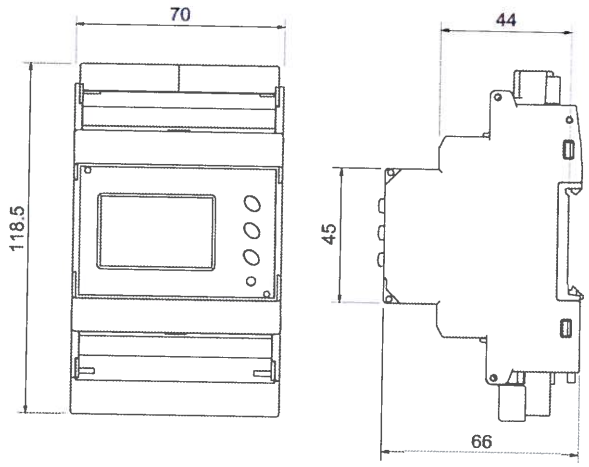
Hager Ltd-Hortonwood 50-TELFORD SHROPSHIRE-TF1 7FT-UK

JKD1125MID

Device marking



Dimensions



TEST ENGINEER: D.Kelly **Complies**

AP 01 Issue 2 02/03/2016

REPORT No:	G2097	DATE OF TEST	30/09/2019
PRODUCT TESTED:	JKD1125MID Meter		
APPLICABLE STANDARD:	BS EN 61439-3:2012 incorporating corrigendum 2013/15 Clause 10 Design Verification		
REASON FOR TESTS:	New Product Introduction of MID meter with Modbus and pulsed kWh outputs		

Clause 10.3 Degree of Protection of ASSEMBLIES

IP rating claimed door closed - IP30 (Probes selected = 2.5mm)
IP rating claimed door open – IP2XC (Probes selected = 2.5mm + finger)
First Numeral Definition – The access probe of 2.5mm shall not penetrate.

Complies

Clause 10.4 Clearances & Creepage Distances

Meterpack MID
Declared Ratings (Clearances) :
Uimp = 4kV:
Pollution degree = 2, From Table 1, minimum clearance in air = 3.0mm

Power loom pack identical to JK1125PM : Assessed
Power lead to meter identical to JK1125PM : Assessed
Refer to G1866 for previous clearances around main MCCB incomer & busbar stack.

Complies

Meterpack MID
Declared Ratings (Creepages) :
Ui = 690V, Pollution degree = 2, Table F1 x = 1.0mm
From Table 2, minimum creepage distance = 1.8mm
For fuse holder (Material group 1, CTI = 600), Min creepage distance = 1.8mm

No change to system creepage distances : Assessed
Creepage distances not affected by fitting of Meter - Assessed
Refer to G1866 for previous creepage distances

Complies

TEST ENGINEER: D.Kelly **Complies**

REPORT No:	G2097	DATE OF TEST	30/09/2019
PRODUCT TESTED:	JKD1125MID Meter		
APPLICABLE STANDARD:	BS EN 61439-3:2012 incorporating corrigendum 2013/15 Clause 10 Design Verification		
REASON FOR TESTS:	New Product Introduction of MID meter with Modbus and pulsed kWh outputs		

Clause 10.6 Incorporation of switching devices and components

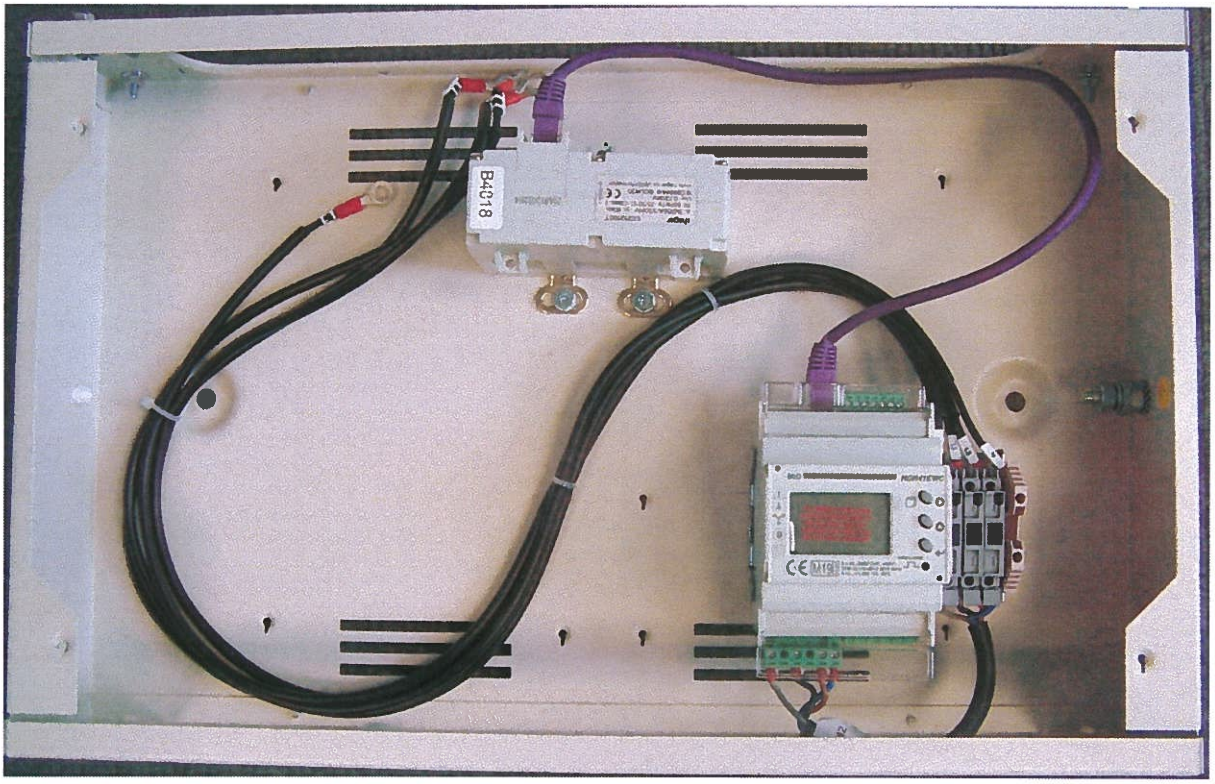
Incomer Arrangement
No change

Outgoing Circuits
No change

Accessory Meterpack Kit
Meter : MID meter located in extension box
CT : Same RI CT 330mV 125A Class 1
Fuse pack : Same
Looms : Same cables, longer lengths

Assessed and being used in accordance with Manufacturer's Instructions

Complies



TEST ENGINEER:	D.Kelly **Complies**

REPORT No:	G2097	DATE OF TEST	30/09/2019
PRODUCT TESTED:	JKD1125MID Meter		
APPLICABLE STANDARD:	BS EN 61439-3:2012 incorporating corrigendum 2013/15 Clause 10 Design Verification		
REASON FOR TESTS:	New Product Introduction of MID meter with Modbus and pulsed kWh outputs		

Clause 10.7 Internal electrical circuits and connections

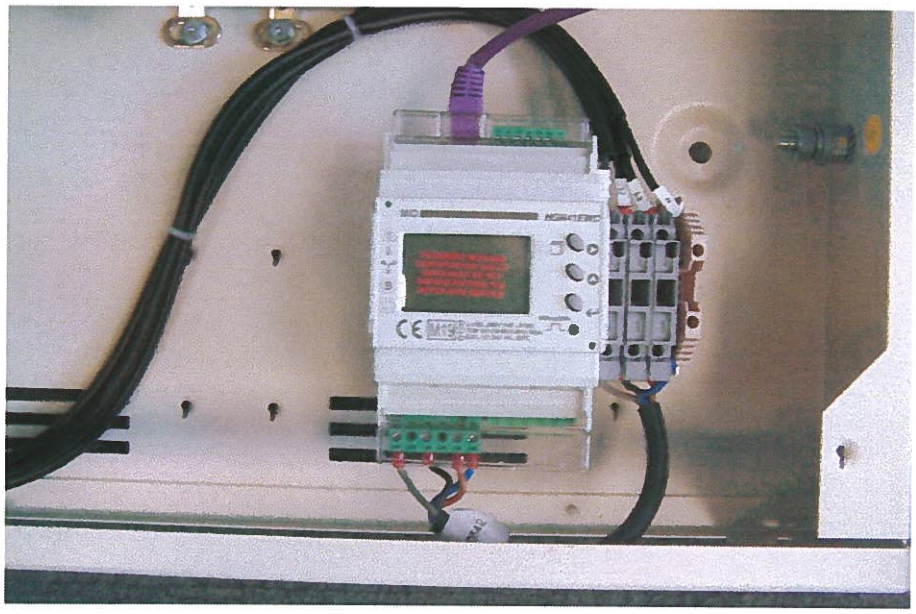
Compliance with the design requirements of 8.6 for internal electrical circuits and connections shall be confirmed by the original manufacturer's inspection.

Supplementary checks for meterpack devices:-

No changes to cable specifications
No changes to electrical connections
No changes to fuse pack
Cables double insulated where required
Cables lengthened only

Refer to Test Report G1866 for previous testing : Assessed

Complies



TEST ENGINEER: D.Kelly **Complies**

REPORT No: G2097 DATE OF TEST 30/09/2019

PRODUCT TESTED: JKD1125MID Meter

APPLICABLE STANDARD: BS EN 61439-3:2012 incorporating corrigendum 2013/15
Clause 10 Design Verification

REASON FOR TESTS: New Product Introduction of MID meter with Modbus and pulsed kWh outputs

Clause 10.9.2 Di-Electric Properties (Power Frequency Withstand Voltage)

Declared Ratings :

Ui = 690V, Uimp = 4kV, 50/60Hz, Pollution degree = 2
From Table 8, di-electric test voltage **1890V a.c. r.m.s.**

Meters are not designed to be connected when this type of test is carried out.
When Meterpack fitted, fuses and neutral cable to be disconnected for meter.
See Test Report G1866 – no changes to main distribution board. Assessed
No changes to Meterpack auxiliary circuit power loom.

Complies

Clause 10.9.3 Impulse Withstand Voltage

Declared Ratings :

Ui = 690V, Uimp = 4kV, 50/60Hz, Pollution degree = 2

Meters are not designed to be connected when this type of test is carried out.
When Meterpack fitted, fuses and neutral cable to be disconnected for meter.
See Test Report G1866 – no changes to main distribution board. Assessed
No changes to Meterpack auxiliary circuit power loom.

Complies

Clauses not affected or requiring further validation:-

6.1 Assembly designation marking: **Complies by inspection**
6.2 Documentation: **Complies by inspection**
6.3 Device Identification: : **Complies by inspection**
10.2 Strength of materials & parts: No change: Complies G1866
10.3 Degree of protection: No change: Complies G1866
10.4 Clearances & creepage distances: No change: Complies G1866
10.5 Protection against electric shock: No change: Complies G1866
10.6 Incorporation of switching devices & components: **Complies by inspection**
10.7 Internal electric circuits & connections: No change: **Complies by inspection**
10.8 Terminals for external conductors: No change: Complies G1866
10.9 Dielectric properties: No change: **Complies by inspection**
10.10 Temperature Rise: Complies G1866
10.11 Short Circuit Withstand: Complies G1866
10.12 EMC: Complies G1866
10.13 Mechanical Operations: Complies G1866

TEST ENGINEER: D.Kelly
Complies