

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 39560

Port of Glasgow Date of First Survey 9/12/19 Date of Last Survey 30/12/19 No. of Visits 3  
No. in on the Iron Steel SS. HARMONIDES Port belonging to Liverpool  
eg. Book 3878 Built at Irvine By whom Messrs. Ayrshire Dock & L<sup>y</sup> When built 1919  
Owners Messrs. R.P. Houston & Co. Ltd. Owners' Address Messrs. Salford & Kirk & McKay  
Card No. 484 Electric Light Installation fitted by Messrs. Salford & Kirk & McKay When fitted 1919

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

England forced lubrication engine direct coupled to compound wound multi-pole dynamo  
Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current cont.  
There is Dynamo fixed Lower Engine room Stbd Whether single or double wire system is used double  
Position of Main Switch Board Lower Engine room Stbd having switches to groups 6 groups of lights, &c., as below  
Positions of auxiliary switch boards and numbers of switches on each

fuses are fitted on main switch board to the cables of main circuit yes and on each auxiliary switch board to the cables of auxiliary circuits yes and at each position where a cable is branched or reduced in size yes and to each lamp circuit yes  
vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes  
the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 100 per cent over the normal current  
all fuses fitted in easily accessible positions yes Are the fuses of standard dimensions yes If wire fuses are used  
are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit yes  
all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

total number of lights provided for 189 arranged in the following groups:—  

lights each of	16	candle power requiring a total current of	12	Amperes
24	lights each of	16	candle power requiring a total current of	12
58	lights each of	various	candle power requiring a total current of	21
67	lights each of	16	candle power requiring a total current of	33.5
9	lights each of	various	candle power requiring a total current of	7
31	lights each of	16	candle power requiring a total current of	15.5
2 Mast head lights with 2 lamps each of 32	lights each of	32	candle power requiring a total current of	2
2 Side lights with 2 lamps each of 32	lights each of	32	candle power requiring a total current of	2
6 Cargo lights of each 96	lights each of	96	candle power, whether incandescent or <u>arc</u> lights	<u>Incand.</u>

lights, what protection is provided against fire, sparks, &c.  
are the switches controlling the masthead and side lights placed Chart Room

## DESCRIPTION OF CABLES.

cable carrying	100 Amperes, comprised of	19 wires, each	14 S.W.G. diameter, .094 square inches total sectional area
each cables carrying	33.5 Amperes, comprised of	7 wires, each	17 S.W.G. diameter, .017 square inches total sectional area
each cables carrying	12 Amperes, comprised of	7 wires, each	18 S.W.G. diameter, .012 square inches total sectional area
to lamps carrying	3 Amperes, comprised of	1 wires, each	17 S.W.G. diameter, .002 square inches total sectional area
light cables carrying	3 Amperes, comprised of	1 wires, each	14 S.W.G. diameter, .005 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Unarmoured & braided cable clipped to decks & protected by piping when liable to damage

in cables, how made, insulated, and protected No joints

the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Are all joints in accessible positions, none being made in bunks, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage  
are any joints in or branches from the cable leading from dynamo to main switch board No

the cables led through the ship, and how protected Through clean holes in beams & clipped hard to decks & Bulk heads

a 26.5 kw 105 volt D.C. generator set installed  
scope with 20 ft installation  
Engine Bellon Moreau 40603  
Lantern 20 ft generator

14.3.41



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible yes

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead casing

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armour & braiding

What special protection has been provided for the cables near boiler casings Armour & braiding

What special protection has been provided for the cables in engine room Armour & braiding

How are cables carried through beams Through clean holes through bulkheads, &c. W. T. Glands

How are cables carried through decks W. T. Deck pipes

Are any cables run through coal bunkers no or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected Armour & braided cable covered with sheet iron

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage no

If so, how are the lamp fittings and cable terminals specially protected

Where are the main switches and fuses for these lights fitted

If in the spaces, how are they specially protected

Are any switches or fuses fitted in bunkers no

Cargo light cables, whether portable or permanently fixed Portable How fixed Portable

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel

How are the returns from the lamps connected to the hull

Are all the joints with the hull in accessible positions

Is the installation supplied with a voltmeter yes, and with an amperemeter yes, fixed Switch board

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, fuses, or joints of cables fitted in the pump room or companion

How are the lamps specially protected in places liable to the accumulation of vapour or gas

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

TELFORD, GRIER & MACKAY, LTD.

Electrical Engineers

Date

COMPASSES.

Distance between ~~dynamo~~ or electric motors and standard compass 20 ft from wireless cabin

Distance between ~~dynamo~~ or electric motors and steering compass 15 " " "

The nearest cables to the compasses are as follows:—

A cable carrying	5	Amperes	15	feet from standard compass	12	feet from steering compass
A cable carrying	5	Amperes	3	feet from standard compass	3	feet from steering compass
A cable carrying		Amperes		feet from standard compass		feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power yes

The maximum deviation due to electric currents, etc., was found to be Nil degrees on any course in the case of the standard compass and Nil degrees on any course in the case of the steering compass.

AYRSHIRE DOCKYARD CO., LIMITED.

A. McCall

Builder's Signature.

Date 16-1-20.

GENERAL REMARKS.

This Installation has been fitted on board under special survey. Tested under full working conditions & found satisfactory.

ELEC. LIGHT.

20/1/20

J. Stanley Rankin

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW

37 JAN 1920

Elec. Light



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.