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ELECTRICAL LABORATORY- TEST REPORT
Safety of Machinery –Electrical Equipment of The Machines
Part 1: General Requirements

Test Report N°.....
Date of issue..... 19-10-2015
Sample date in..... 08-09-2015
Date of performance..... 08-09-2015 to 08-09-2015
Applicant.....
Customer.....

Sample description..... Control panel For 2 Side Labeling Machine
Sample Condition..... Ok
Customer reference..... N/A

Trade mark / Manufacturer..
Model / Type / Reference..... PDSL-120
Ratings..... 230 VAC, 1 Phase, 50/60 Hz, 3.6Amp
Test method(s)..... BS EN 60204-1:2006+A1:2009

Overall verdict **Pass** ☒
Fail ☐

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BS EN 60204-1			
Clauses	Requirement – Test	Results – Remarks	Verdict
5.	**INCOMING SUPPLY CONDUCTOR TERMINATIONS AND DEVICES FOR DISCONNECTING AND SWITCHING OFF**		
5.1	**Incoming supply conductor terminations**		
	The electrical equipment of the machine shall have only one incoming supply connection	Single Incoming Supply	P
	Unless a plug is supplied it is recommended that the supply conductors are terminated at the supply disconnecting devices		N/A
	Neutral conductor "N" should be indicated in the technical documentation and label "N" is provided at neutral conductor	Neutral conductor identified as 'N'	P
	There shall be no connection between neutral conductor and protective bonding circuit or combined PEN-terminals.	The neutral & protective bonding circuit has separate wires	P
	All terminals of incoming supply shall be clearly marked	(Clear indication for supply voltage provided)	P
5.2	**Terminal for connection to external protective Earthing system**		
	Terminal for connection of external protective conductor provided and marked with "PE" or with graphical symbol ⏚ or by use of bicolor combination GREEN/YELLOW	Bolt provided for PE terminal & graphical symbol ⏚ applied	P
	Cross section of incoming PE conductor shall be according to table 1	In Compliance	P
5.3	**Supply disconnecting device**		
5.3.1	A supply disconnecting device shall be provided for each incoming supply to the machine.	Main Isolator selector Switch provided	P
5.3.2	**The supply disconnecting device shall be one of the following:**		
	a) A switch-disconnector with or without fuses		N/A
	b) A disconnector with or without fuses, which has an auxiliary contact that in all cases causes switching device to break the load circuit.		N/A
	c) circuit breaker suitable for isolation		N/A
5.4	**Disconnecting devices to prevent unexpected start-up**		
	Means shall be provided to prevent unexpected start up		P
	Suitable placed	In compliance	P
	Readily identifiable	In compliance	P
	Devices used for isolation function can be used for this purpose such as Disconnectors ,withdraw able fuse links		P

	Devices that do not provide the isolation function may also be used where e.g contactor switch		
	• There is no hazard from electric shock		P
	• The switching off means remains effective throughout the work		P
	• The work is of minor nature		N/A
5.5	**Devices for disconnecting electrical Equipments**		
	Devices shall be provided for disconnecting (isolating) electrical equipment	MCBs provided	P
	Such devices shall be suitably placed	MCB, suitably placed in the electrical panel	P
	Readily identifiable		P
	Provided with adequate means to prevent unauthorized, inadvertent and /or mistaken closing except as allowed in 5.6		P
5.6	**Protection against unauthorized, inadvertent and/or mistaken connection**		
	The disconnecting devices that are located outside an enclosure shall be provided with locking means		P
	Other means of protection against reconnection (e.g. warning labels) may be used for non-lockable disconnecting devices (e.g. withdraw able fuse-links) may be provided		N/A
	When a plug/socket combination is so positioned that it can be kept under immediate supervision, *means for securing need not be provided.*		N/A

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	additional safety procedures		
17.8	**Maintenance manual**		N/A
	Technical documentation shall contain a maintenance manual, detailing proper procedures for adjustment, servicing or preventive inspection and repair		N/A
	Recommendations regarding maintenance or service records are part of it.		N/A
	Methods for the verification of proper operation provided.		N/A
17.9	**Parts list**		N/A
	The parts list shall comprises as a minimum information for ordering of spares or replacement parts		N/A
	The parts list shall show for each item		N/A
	• Reference designation used in documentation and type designation		N/A
	• supplier and alternative sources where applicable		N/A
	• general characteristics where appropriate		N/A
18	**VERIFICATION**		
18.1	Verification, that electrical equipment is in compliance with the technical documentation		P
18.2	**Verification of conditions for protection by automatic disconnection of supply**		
	Verification of conditions for protection by automatic disconnection of supply shall be verified by tests		
	• To be done by the manufacturer of the machine		P
	• To be done on site when the machine is installed		N/A
	The disconnecting time should be as per Table A.1 of annex A		N/A
	• Ground bond test with 10A and 24V and resistance should be less then 0.1Ω	 Measured Resistance is 35.4 mΩ	P

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18.3	**Insulation Resistance test**		
	Insulation resistance measured with 500V DC between power circuit conductors and PE circuit is to be 1 MΩ. Test made on individual sections of complete electrical installation	 Measured resistance value is 2900 MΩ	P
18.4	**Voltage test**		
	Electrical equipment should withstands a test voltage applied twice the rated equipment or 1000V whichever is higher for 1 sec.	 No voltage break down and no flashover occur	P
18.5	**Protection against residual voltage**		
	Tests for protection against residual voltages are performed to ensure compliance with Cl. 6.2.4		N/A
18.6	**Functional tests**		
	The functions of electrical equipment shall be tested		P

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Test Results:

Sr. No	TEST CONDUCTED	TEST CONDITIONS	TEST REQUIREMENTS	RESULTS
01	HIGH VOLTAGE TEST	Test voltage: 1KV/50 Hz Test Duration: 1second Test Part: Between conductors of all circuits & protective bonding circuit.	Shall withstand without breakdown	P
02	INSULATION RESISTANCE TEST	Test Voltage: 500V D.C Test part: Between power circuit conductors & protective bonding	Shall not be Less than 1 MOhm	P (Rmeas→ 2900 MΩ)
03	EARTH CONTACT RESISTANCE TEST	Test Current: 10A/24V Test Part: Between protective earth terminals and body that is part of the protective bonding circuit.	Calculated Earth Contact Resistance from current & drop in voltage shall not exceed 0.1 ohm	P (Rmeas→34.4 mΩ)
		Test Current: 10A/24V Test Part: Between protective earth terminals and door that is part of the protective bonding circuit.		P (Rmeas→35.4 mΩ)

REMARKS:

1. All the tests conducted as per the standard specification.
2. The test results pertain to the sample submitted for testing.
3. Abbreviations used:

Info - Information, Mfr. – Manufacturer, NM – Not Mentioned, IP- Ingress Protection, Cl. – Clause, Temp. – Temperature, Ckt. – Circuit, amb. – Ambient, Sr. No. – Serial number, N/A-Not applicable, P-Pass

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