

FACTORY ACCEPTANCE TEST (FAT) CHECKLIST: CONTROL PANEL AND DCS / PLC

Company: Your Company Name / Logo

Doc no: Rev:

Yellow cells: enter data. Grey cells: calculated automatically. Free template from instrumentationblog.in

Project			
Project		Client	
System / panel		Vendor	
PO number		FAT date	
Location		FAT procedure	

Test checklist					
No	Section	Check item	Acceptance criteria	Result	Remarks
1	Documentation	Approved drawings, I/O list and FAT procedure available	Latest revision on file		
2	Documentation	Bill of materials matches supplied hardware	Make, model and quantity match		
3	Visual	Panel dimensions, colour, IP rating and nameplates	As per approved GA drawing		
4	Visual	Wiring neat, ferruled, colour coded, segregated (IS / non IS, AC / DC)	No damage, loose strands or mix		
5	Visual	Earth bars (PE, IE / clean earth) and bonding	Separate bars, all doors bonded		
6	Power	Insulation resistance of incoming power circuits	$\geq 1 \text{ M}\Omega$ at 500 V DC		
7	Power	Power on; all supply voltages measured	Within $\pm 5 \%$ of nominal		
8	Power	Redundant power supply changeover	No interruption to controllers		
9	Hardware	Controllers, I/O cards and network switches healthy	No diagnostic alarms		
10	I/O test	Analog inputs: 4, 12, 20 mA injected on every channel	Reading within $\pm 0.25 \%$ of span		
11	I/O test	Analog outputs: 0, 50, 100 % from HMI measured	Within $\pm 0.25 \%$ of span		
12	I/O test	Digital inputs: every channel toggled	Correct tag changes state on HMI		
13	I/O test	Digital outputs: every channel forced	Correct relay / terminal energises		
14	I/O test	Open circuit and short circuit detection on AI channels	Bad PV alarm raised		
15	Communication	Fieldbus / Modbus / Ethernet links to third party systems	Data exchange verified, failure alarm works		
16	Communication	Network redundancy: one cable pulled	No loss of view or control		
17	Logic	Control loops: modes, PID action and output limits	As per control narrative		
18	Logic	Interlocks and sequences tested against cause and effect	Every cause gives the correct effect		

19	HMI	Graphics, tag names, units and ranges checked	Match I/O list		
20	HMI	Alarm priorities, set points and alarm summary	Match alarm list		
21	HMI	User security levels and login	Operator / engineer rights correct		
22	Redundancy	Controller failover (primary pulled or powered off)	Bumpless, no output change		
23	Final	Backups of application and configuration taken	Copy handed to client		
24	Final	Punch list agreed and signed	No category A items open		
PASS				0	
FAIL				0	
Not applicable				0	
Not yet tested				24	
FAT status					

Vendor	Client	Third party inspector
Name:	Name:	Name:
Signature:	Signature:	Signature:
Date:	Date:	Date: