



IT starts with a cable  
and ends with a solution

## WORK INSTRUCTIONS & ACCEPTANCE

Job Number:	J1015	Quote Number:	Q1015
Purchase Order Number:		Project Manager:	A Smith
Customer Name:	ACME Trading	Tel Number:	
Contact Name:		Issue Date:	01.07.19
Contact Tel Number:		Project Start Date:	04.07.19

## SITE DETAILS

Site Address:	ACME Trading		
	East Street		
	Birmingham		
	B1		
Site Contact Name:		Contact Tel Number:	

### Summary of Work:

Relocation and extension of existing fibre and category 5e network cables within Factory 1.

**The PM & Senior Engineer Must Carry Out Hazard Identification and Sign-Off Risk Assessment Prior to Starting Work**

### Amendments:

### Signed:

### Testing Parameters: (Tick requirement as applicable) ✓

Continuity	<input type="checkbox"/>	Cable Analyser	<input type="checkbox"/>	OTDR	<input type="checkbox"/>	Power Meter	<input type="checkbox"/>	Electrical	<input type="checkbox"/>
Map Test	<input type="checkbox"/>	Test	<input type="checkbox"/>	Test	<input type="checkbox"/>		<input type="checkbox"/>	Test	<input type="checkbox"/>

### Attachments: (Tick requirement as applicable) ✓

Specification	<input type="checkbox"/>	Drawings/Plans	<input type="checkbox"/>	Method Statement	<input type="checkbox"/>	Site Directions	<input type="checkbox"/>		<input type="checkbox"/>
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Engineers:	D Jones, B Davis	Start Date:	04.07.19
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### Summary of Work Variations:

**Senior Engineer:** I certify that the work has been completed in accordance with these instructions, including all Risk Assessments and Safe Working Practices.

Engineer Name		Signature		Date	
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**Customer Satisfaction:** I am satisfied that the work has been completed in accordance with these instructions.

Customer Name		Signature		Date	
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### Additional Comments:



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## Construction Phase Health and Safety Plan (CDM 2015)

<b>IPNS Ltd</b>						<b>Hillcrest, Station Road, Highley, Shropshire, WV16 6NP</b>					
Job Number:						Customer Name:					
Installation Address:											
Site Contact Name:						Site Contact Number:					
Document Issued by:						Issue Date:					
Project Title:											
Description of Work:											
Start Date:						Estimated Completion Date					
Estimated Duration:						Working Hours:					
HSE Notifiable Project:			No			Welfare Facility Provided:					
Site Supervisor Name:						No. of Engineers on Site:					
<b>Permit to Work Required?</b>						<b>Competence and Certifications Required?</b>					
		Yes		No				Yes		No	
Hot Works				✓		CSCS/ECS Card		✓			
Confined Spaces				✓		Manual Handling		✓			
Electrical Isolation				✓		Asbestos Awareness				✓	
Riser Shafts				✓		First Aid (EFAAW)				✓	
Crane Isolation				✓		Confined Space Trained				✓	
Work at Height		✓				PASMA (Mobile Towers)/IPAF				✓	
<b>Personal Protective Equipment Required</b>											
		Yes		No				Yes		No	
Safety Helmet				✓		Dust Mask				✓	
Safety Boots/Shoes		✓				Hearing Protection				✓	
High Visibility Vest or Jacket		✓				Coveralls				✓	
Safety Glasses		✓				Body Harness + Lanyard				✓	
Safety Gloves		✓									
<b>Work Equipment Required</b>											
		Yes		No				Yes		No	
Step Ladders		✓				Power Tools (Battery)		✓			
Ladders		✓				Temporary Task Lighting				✓	
Mobile Elevated Work Platform				✓		Electronic Test Equipment		✓			
Mobile Scaffold Tower				✓		CAT Scanner – Cable Avoidance Tool				✓	
Power Tools (110V)				✓							
<b>Hazard Identification and Risk Assessments Relevant to Project</b>											
		Yes		No				Yes		No	
Network Cabling Installation		✓				MEWPS				✓	
Electrical Cabling Installation				✓		Mobile Scaffold Platforms				✓	
Manual Handling		✓				Violence & Aggression				✓	
Work at Height (Steps/Ladders)		✓				Lone Workers				✓	
Asbestos (ACMs)				✓		Use of temp lighting				✓	
Use of Power Tools (Drills/Jig Saw etc.)				✓		Customer Owned Equipment				✓	
Use of Mitre Saws				✓		Working Outside (Hot/Cold)		✓			
Hand Arm Vibration				✓		Operating Generators (P/D)				✓	



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Control of Noise		✓	Stress		✓
Control of Dust		✓	Driving		✓
Confined Spaces		✓	Young Workers		✓

## INSTALLATION METHOD STATEMENT

### Overview

The proposal is for the extension of 2 no existing 12 core, OM3 fibre cables and the relocation of 4 no Category 5e network cables.

### Fibre Cables

The existing cables between Deliveries and Production shall be cut at point of entry to Deliveries, leaving the cables in situ between this point and MCR.

2 no new cables shall be routed on the exterior of Factory 1 and around the grounds, using the building contractor's site hoardings. The cable shall then be clipped, at height to the exterior of Factory 1 and routed towards the entrance to the duct at Deliveries.

The new cables shall be spliced to the existing cables and contained within a lockable IP rated box, which shall be affixed to the wall behind the Deliveries counter.

### Category 5e Cables

4 no Category 5e cables, located on the first floor of Production, shall be cut and pulled back to their point of entry to the building and relocated to the inspection pit between MCR and Factory 1 and left coiled for future use.

### Network Cabling

- Network cables are to be installed following pre-installed containment routes.
- Network cables are to be installed free from twists and knots
- Network cables, when not contained within trunking or conduit, shall be banded together using Velcro wraps at a recommended interval of minimum 1 metre on the horizontal plane and at a minimum 300mm on the vertical plane. At times it may be necessary to provide a greater number of ties, especially on the vertical plane.
- In false ceiling voids, it is not permissible to attach tie wraps to ceiling support wires, pipes carrying water or gas nor electrical conduits. The correct method is to use tie wrap support components such as girder clips, knock ins etc.
- Network cables will not to be installed so as to exceed the maximum bending radius of the cable.
- When installing cables into trunking systems provide protection to prevent damage to the outer jacket.
- Special care will be taken when installing glass fibre cables, they will not be pulled with undue force.

### Network Cable Terminations

- Network cables should not be bent to exceed the minimum bending radius and should be free of kinks and twists.
- The internal wires are twisted in pairs at different ratios. This differential twist ratio gives the cable its electrical characteristics.
- Never alter the twist ratio by untwisting and twisting by hand.



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- Only untwist a maximum of 13mm of wire on each pair to effect termination. More than this will alter the cable characteristics.
- This measurement applies to both ends of the cable giving a maximum of 26mm total untwisted wire.
- Always follow the 568B wirings schedule unless the manufacturer specifies otherwise.
- The 568B schedule dictates which wire is terminated on which pin of a RJ45 connector, as follows;

White Orange = Pin 1

Orange White = Pin 2

White Green = Pin 3

Blue White = Pin 4

White Blue = Pin 5

Green White = Pin 6

White Brown = Pin 7

Brown White = Pin 8

### Test Procedures

- IPNS will complete a 100% test on all installed network cables prior to handover to the customer.

### Network Communication Cabinets

- Cabinet layout specification, supplied by the Customer.
- All Cables should enter the cabinets free from twists and sweep neatly onto cable trays.
- All Cables are to be dressed onto support structures free from twists.
- Dressing begins at a point below the false floor or within down drops.
- All Cables to be tied in regular bunches to both sides of the cabinet.
- Adequate Velcro tie wraps or cable sock to be used to support the weight of cable installed.
- Velcro Ties should not be too tight as to affect the electrical characteristics of the cables.
- Cables to be terminated with due regard to the cable and connector specifications.
- All cables to have wrap around label fitted to the outer jacket, approximately two inches back from the connector.
- Label to show either circuit designation or client authorised labelling detail.
- Cable Management Brackets to be fitted horizontally between Patch Panels and active equipment, to the proposed layout.
- Cabinet accessories, such as power strips, fans etc. to be fitted as per layout.
- Cabinet doors and accessories to have earth straps fitted to the cabinet frame.
- Cabinet external surfaces to be cleaned inside and out prior to handover to the client. This includes any glazed surfaces.

### General Behaviour

As representatives of the company we expect the following conduct;

- All personnel to be polite and courteous to all members of client staff and site workers.
- Be clean, hygienic and presentable.
- No foul or abusive language on client premises.
- Racist or sexist comments will not be tolerated.
- No smoking while on site at all times.
- Adherence to site restrictions on smoking, eating and drinking.
- No consumption of alcohol during working hours, including the use of all illegal substances.



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- Display a positive attitude with clients

**Dress Code**

- Engineers will wear company uniform and PPE as instructed.

**Site Management**

- Keep an inventory of all materials required.
- The inventory should contain quantities, supplier information, stock and deliveries.
- Update the inventory when goods are delivered and when components are used.
- Store all materials in a single central location.
- If possible, locate the inventory in a single secure area for ease of access and record keeping.
- Dispose of rubbish and scrap on a daily basis.
- Always maintain a clean and tidy site.
- Allocate tasks according to skill level and manpower needs.
- Give due regard to the safety of yourself, your colleagues and all persons with access to the site
- Make sure that the correct plant is available and in good working order.
- Hired plant should have instruction sheets and compliance certification.
- Carefully plan the working day.
- When the work is complete thoroughly clean all work areas.

**Additional Control Measures**

**To be completed where applicable on site:**

- Working areas are to be clearly identified with appropriate signage, to notify other workers and members of the public and cordoned off, wherever possible.

**General Questions**

**Yes**

**No**

Is a site induction required and has it been completed ?

Has the asbestos register been made available and viewed?

Are Permit to Work forms required and have they been completed?

Has all equipment been checked and deemed fit for purpose?

Are any substances (chemicals) required? Please list

Is the job safe to proceed?

**Site Supervisor(s)**

Name:		Date:		Signed:	
Name:		Date:		Signed:	

**Site Operatives**

Name:		Date:		Signed:	
Name:		Date:		Signed:	
Name:		Date:		Signed:	
Name:		Date:		Signed:	
Name:		Date:		Signed:	