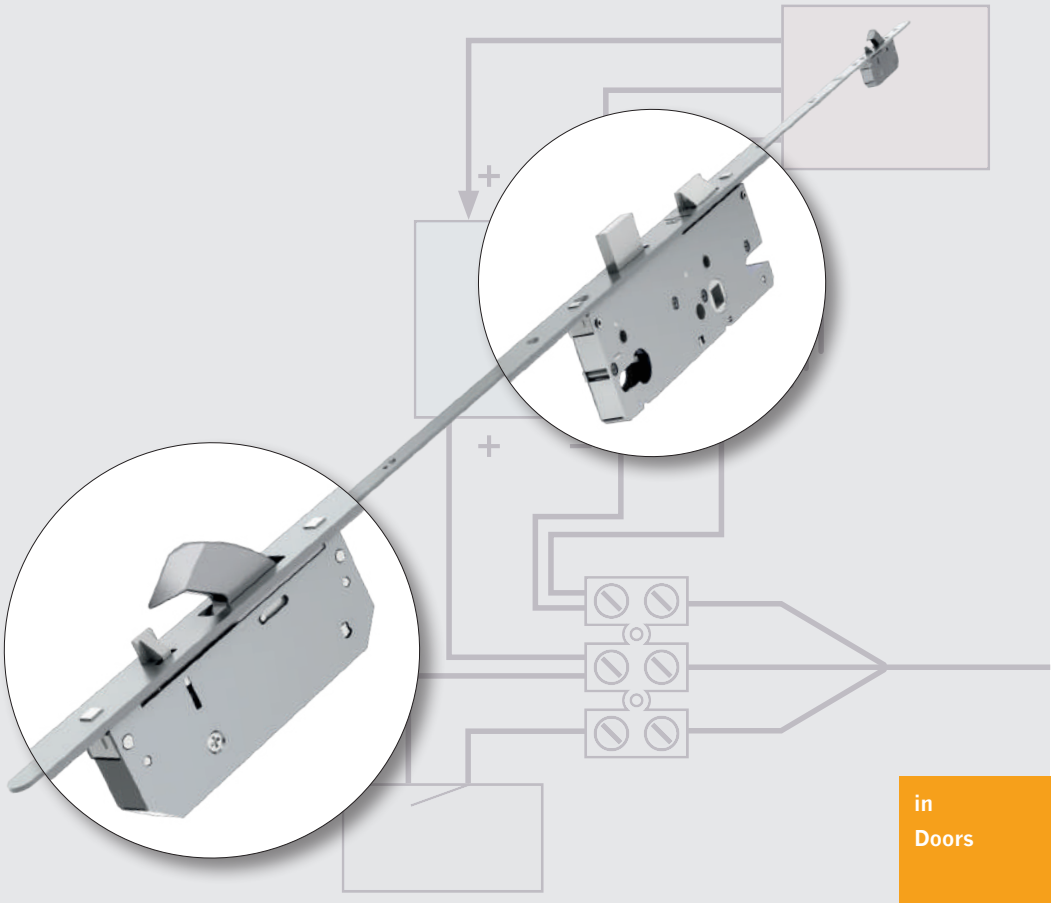
Winkhaus blueMatic AV2-E

Routing and Wiring Overview



in
Doors

All information in this product manual has been compiled and reviewed with the utmost care.

The information in this product manual is intended as a guide to specification, manufacture or installation of the product and in no way forms the basis of any guarantee. It is the responsibility of the person specifying the products to ensure they have selected products fit for purpose.

The information and graphic images provided correspond to the current status of the development and manufacture of this product.

Every effort has been made to guarantee accuracy of the information in this product manual, for the purpose of customer satisfaction, and product improvement, Winkhaus (UK) Ltd. reserve the right to make changes to the product and information without notice.

Due to advances in technology, or amendments to legal regulations or other compulsory changes Winkhaus (UK) Ltd do not guarantee the accuracy and completeness of the information.

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1.0 Application and Installation Instructions

1.1 Specification for blueMatic AV2-E Locking System Communal* and residential entrance doors - single sash applications

Overview of the security solution

The blueMatic AV2-E system is a door (sash) mounted multipoint locking unit fitted with an integral electric motor that can be used to disengage the security of a door. When the door sash is moved to the "sash closed position" the security lock will automatically (mechanically) re-engage the security of a door. The system would typically be used on communal entrance doors. When "mains power failure" emergency conditions occur, emergency egress of the door is ensured by the "Crash the handle – to open" function of the blueMatic AV2-E locking unit.

The operation of the opening function may be activated by any or all of the following methods

- Intercom / Access controlled switch device – switch signals must be potential free
- Winkhaus - Radio transmitter device
- Winkhaus - Key fob entry systems
- Push to release switch

The electrical installation logic / Wiring diagrams

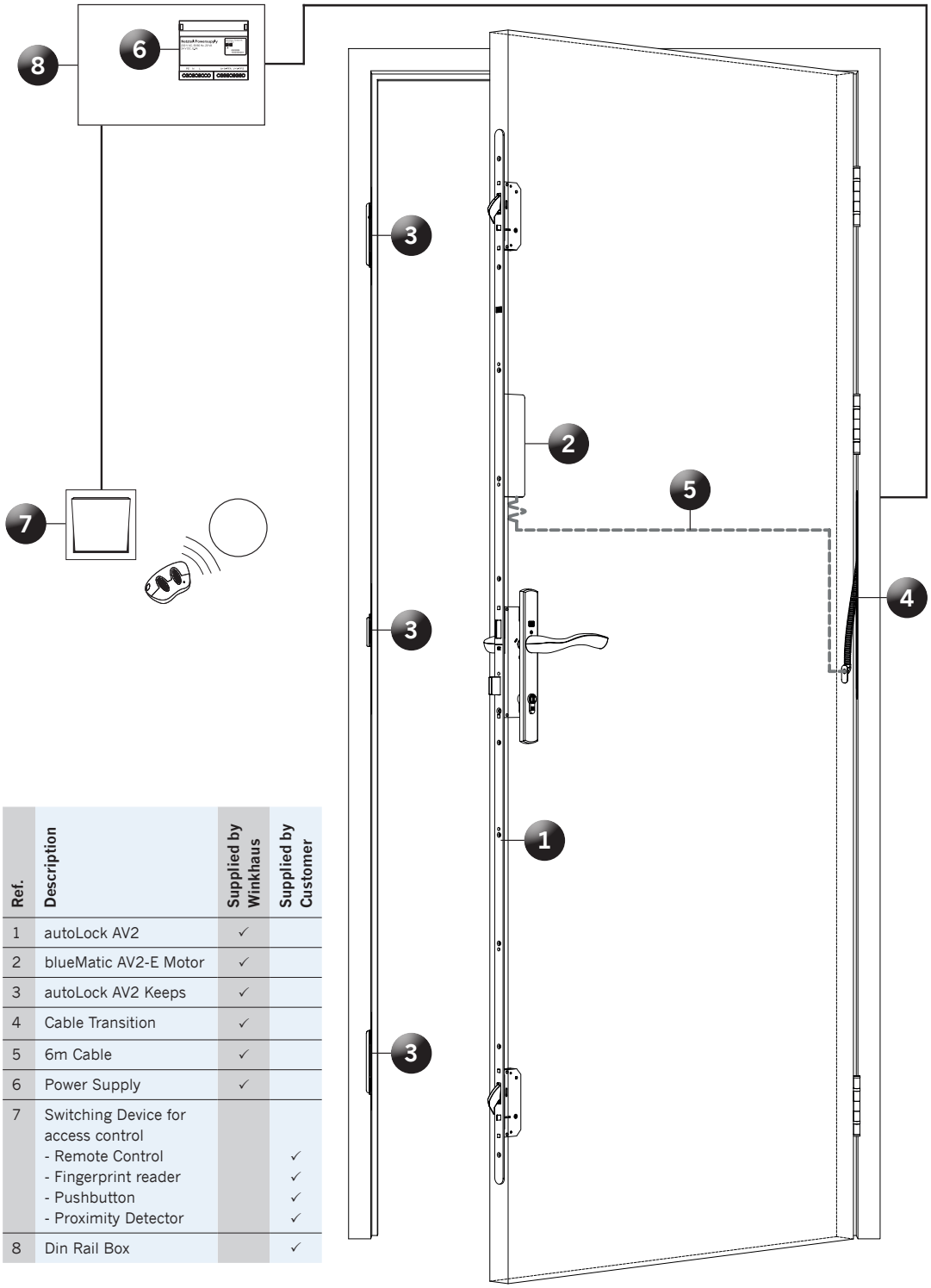
- blueMatic AV2-E with access control system. *See wire diagram for access control.*
- blueMatic AV2-E with access control system plus internal "Push to Release Switch". *See wire diagram for push switch.*

Important manufacturing and installation information

- The components of the blueMatic AV2-E locking system, including all electrical power and control systems must be installed LOCAL to the individual door. The door installer and/or electrical contractor and/or access control specialist must agree responsibility for the on site wiring.
- The components of the blueMatic AV2-E locking system, including all electrical power and control systems must be installed local to the individual door inside a suitable DIN box. The door installer and/or electrical contractor and/or access control specialist must agree responsibility for the size, supply and location of this electrical components box. It is usual practice to install this box in a false ceiling.
- Should you want to accommodate the control unit and button in the same flush type box, this one must have a depth of 65mm. FOR SAFETY REASONS YOU ARE NOT PERMITTED TO INSTALL IT IN A FLUSH TYPE BOX WITH MAINS VOLTAGE PRESENT.
- All switching circuits for the AV2-E locking system must be 100% potential free contacts. (Clean wires / voltage free) .
- Site conditions may dictate that all the wiring outside the electrical components box, to the switching devices shall be protected with steel conduit. Depending on site conditions it may be necessary for these cables to have a fire rating. The electrical contractor and/or access control specialist must have the responsibility for this specification.
- Site conditions may dictate that all external and internal switches and access control panels shall be fitted with anti-tamper screws or key locking. The electrical contractor and/or access control specialist must have the responsibility for this specification.
- The doors shall be fitted internally with lever operating handles. (Similar to the Winkhaus Palladio range).
- The doors shall be fitted externally with "Fixed pad" door handles. (Similar to the Winkhaus Palladio range). The external handles do not control any function of the lock.
- Cylinders may be "keyed alike" or "master suited" as required. Winkhaus accepts no responsibility for failed performance due to the fitting of non-compliant cylinders.
- It is the responsibility of the specifier/architect to evaluate the suitability of the security system with the relevant fire and safety representatives.

*Available without deadbolt as an option

2.0 Product Layout



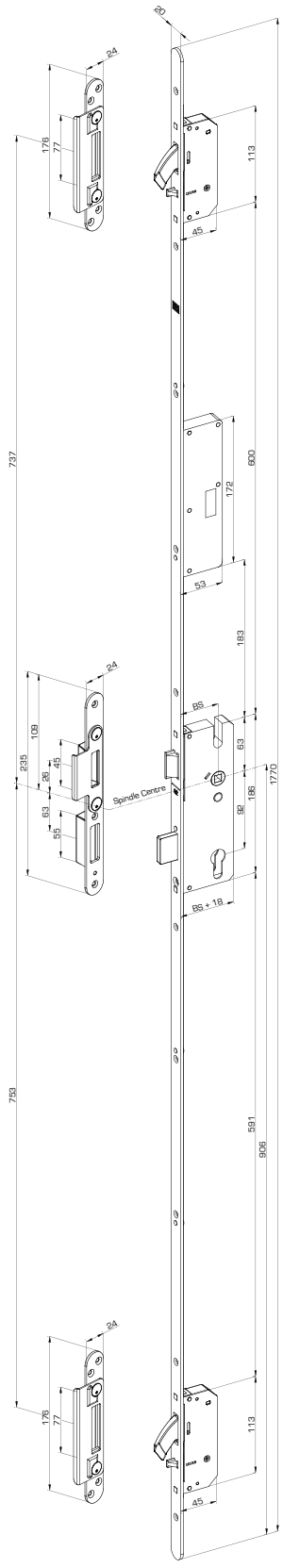
Ref.	Description	Supplied by Winkhaus	Supplied by Customer
1	autoLock AV2	✓	
2	blueMatic AV2-E Motor	✓	
3	autoLock AV2 Keeps	✓	
4	Cable Transition	✓	
5	6m Cable	✓	
6	Power Supply	✓	
7	Switching Device for access control - Remote Control - Fingerprint reader - Pushbutton - Proximity Detector		 ✓ ✓ ✓ ✓
8	Din Rail Box		✓

3.0 Dimensions and Routing Details

3.1 Key Dimensions

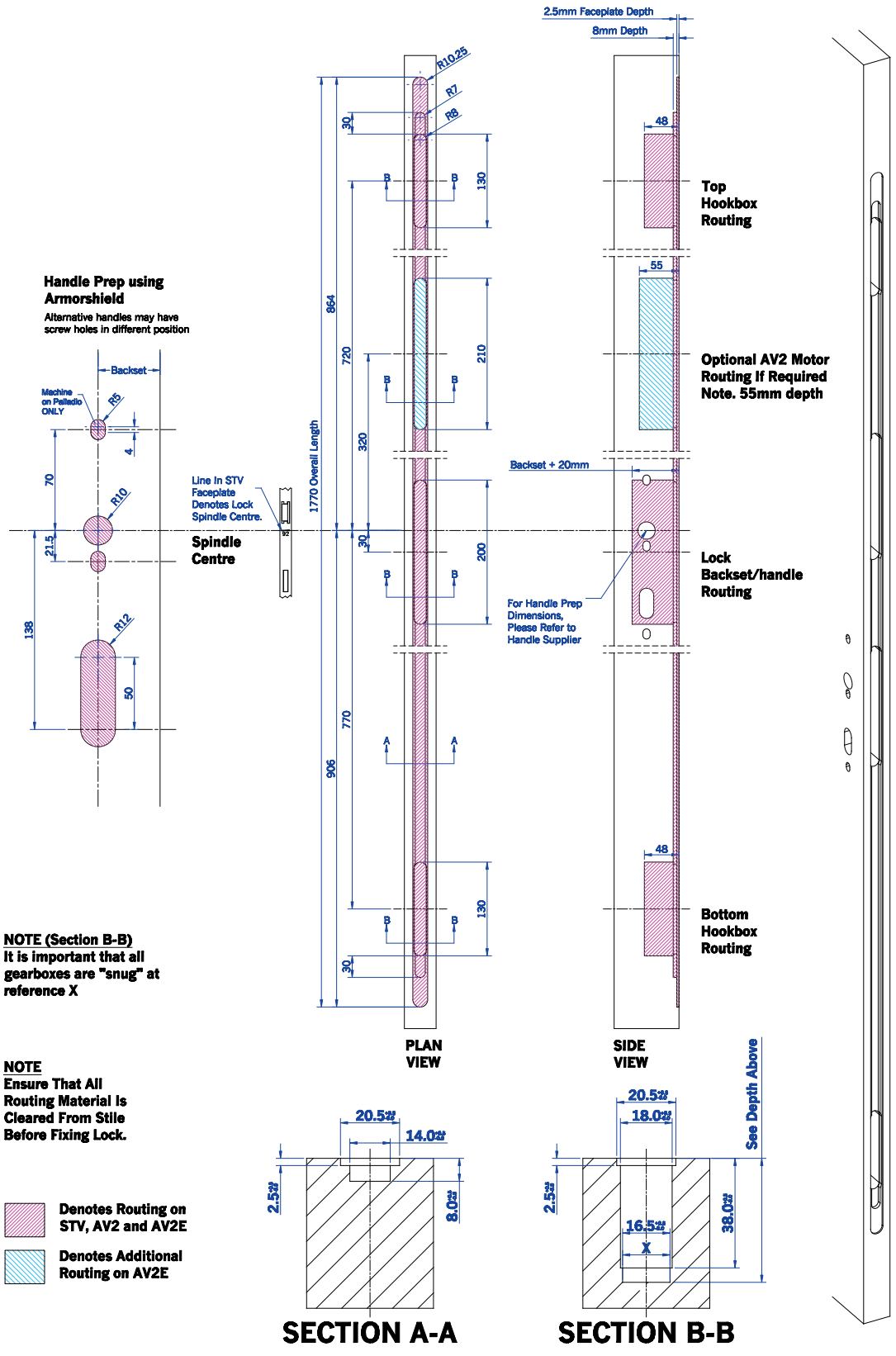
For installing the electronic automatic locking system it is required to rout out for standard three-point locking system and additionally the motor housing, as shown in the following diagrams.

NOTICE!
Important for timber/composite entrance doors: Please enlarge the routing for the additional lock housings up to 47mm



3.0 Dimensions and Routing Details

3.2 Routing Details for Lock and keep on Timber / Composite Doors



NOTE (Section B-B)
It is important that all gearboxes are "snug" at reference X

NOTE
Ensure That All Routing Material Is Cleared From Stile Before Fixing Lock.

Denotes Routing on STV, AV2 and AV2E

Denotes Additional Routing on AV2E

3.0 Dimensions and Routing Details

3.3 Routing Details for Cable Transition (Surface Mounted)

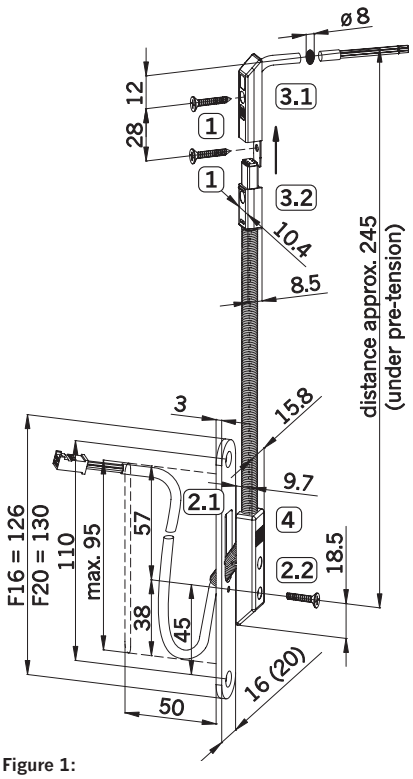


Figure 1:
Routing and drill dimensions for KÜ-T1-STV and cover plate F16 or F20 (dimensions in mm)

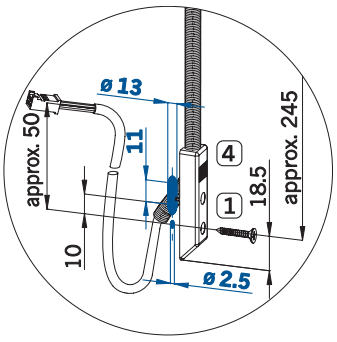


Figure 2:
Detail routing and drill dimensions for KÜ-T1-STV without cover plate (dimensions in mm)

[1] Fitting screw (included in delivery from cable transition)
[2.1] Cover plate (length F16 = 126 mm / F20 = 130 mm)
[2.2] Screw M3 x 12 (included in delivery from coverplate)
[3.1] Frame part A
[3.2] Frame part B
[4] Sash part

Installation sequence

Frame part A [3.1] :
- Drill a hole with a Ø8mm through the door frame
- Pass the cable through the door frame (including cable reserves in frame!)
- Fasten the frame part A [3.1] with the fitting screw [1] Ø3 x 20mm

Caution! Screw fixing 1 max. diameter 3mm

Sash part [4] with cover plate [2.1] (Figure 1):
- Mill slotted hole max. 95mm and approx. 50mm deep

Sash part [4] without cover plate (Figure 2):
- Drill a hole 2 x Ø13mm resp. oblong hole through the euro grove (approx. 245mm vertical under the frame part drill hole of Ø8mm, depends on the profile / hinge rotation point) and for screw [1] pre-drill (Ø2.5mm)

Caution! The drillings must be burr-free. The spring must be kept under a slight pre-tension even with the door being closed (approx. 10mm).

- Attach necessary drillings (Ø13mm) in the sash (e.g. In the glazing chamber)
- Pass the cable with the plug for the motor housing through the door sash
- Insert the end of the spring into the sash part p4] into the drilling / routing into the door sash / cover plate are.
- And / or alternatively to the cover plate [2.1] with screw M3 x 12mm [2.2] fasten the sash part [4] with fitting screw Ø3 x 20mm in the fitting groove.
- Install the cable for example within the glazing chamber towards the motor housing; install the rest of the cable for example within the hollow section.

Caution! Provide cable slack of about 30-50mm for the spring tension behind the sash part [4] of the cable transition.

- Complete the plug-in connection after putting the door on its hinges
- Fix the frame part B [3.2] with the fitting screw [1] Ø3 x 20mm

Caution! Release the second retaining screw [1] (e.g. during the installation of the door frame into the reveal) when unhinge the door sash!

Caution! Insulate the wires not used!

3.0 Dimensions and Routing Details

3.4 Routing Details for Cable Transition (Routed In - Concealed)

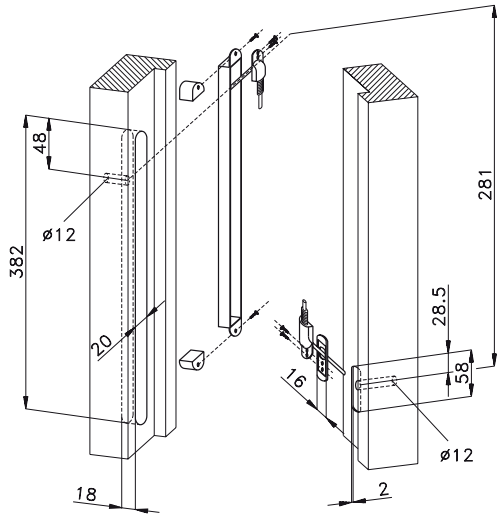


Figure 1:
Routing and drill dimensions for timber

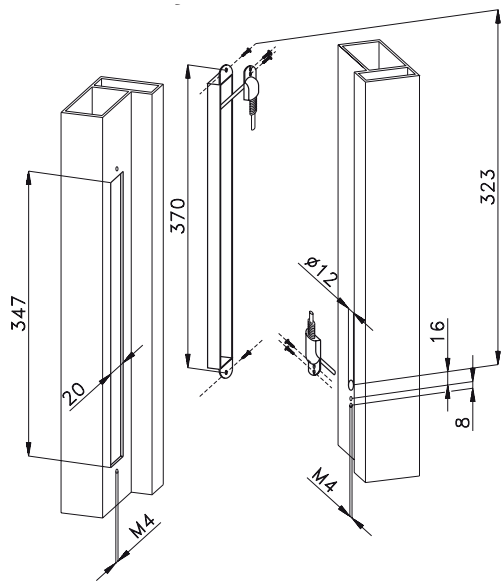


Figure 2:
Routing and drill dimensions for PVCu

Installation sequence

Frame part:

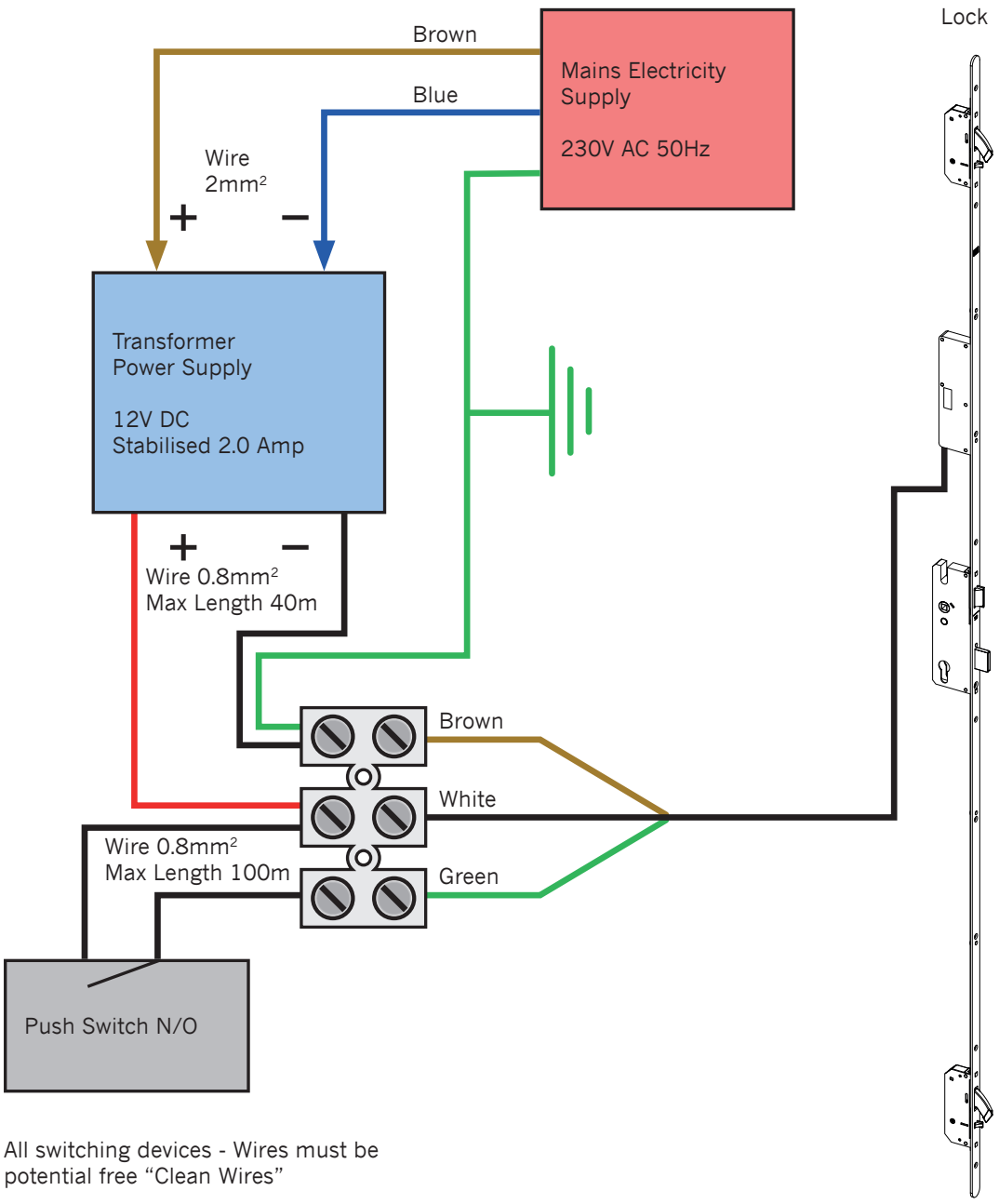
- Cut an oblong hole in the door frame according to specifications
- Run the cable through the door frame

CAUTION! Leave some spare cable (loop) directly behind the cable transition to allow for the spring to expand!

- Insert and screw cable transition (with cable transition fitting piece and radius shimming plate)

4.0 Wiring Diagrams

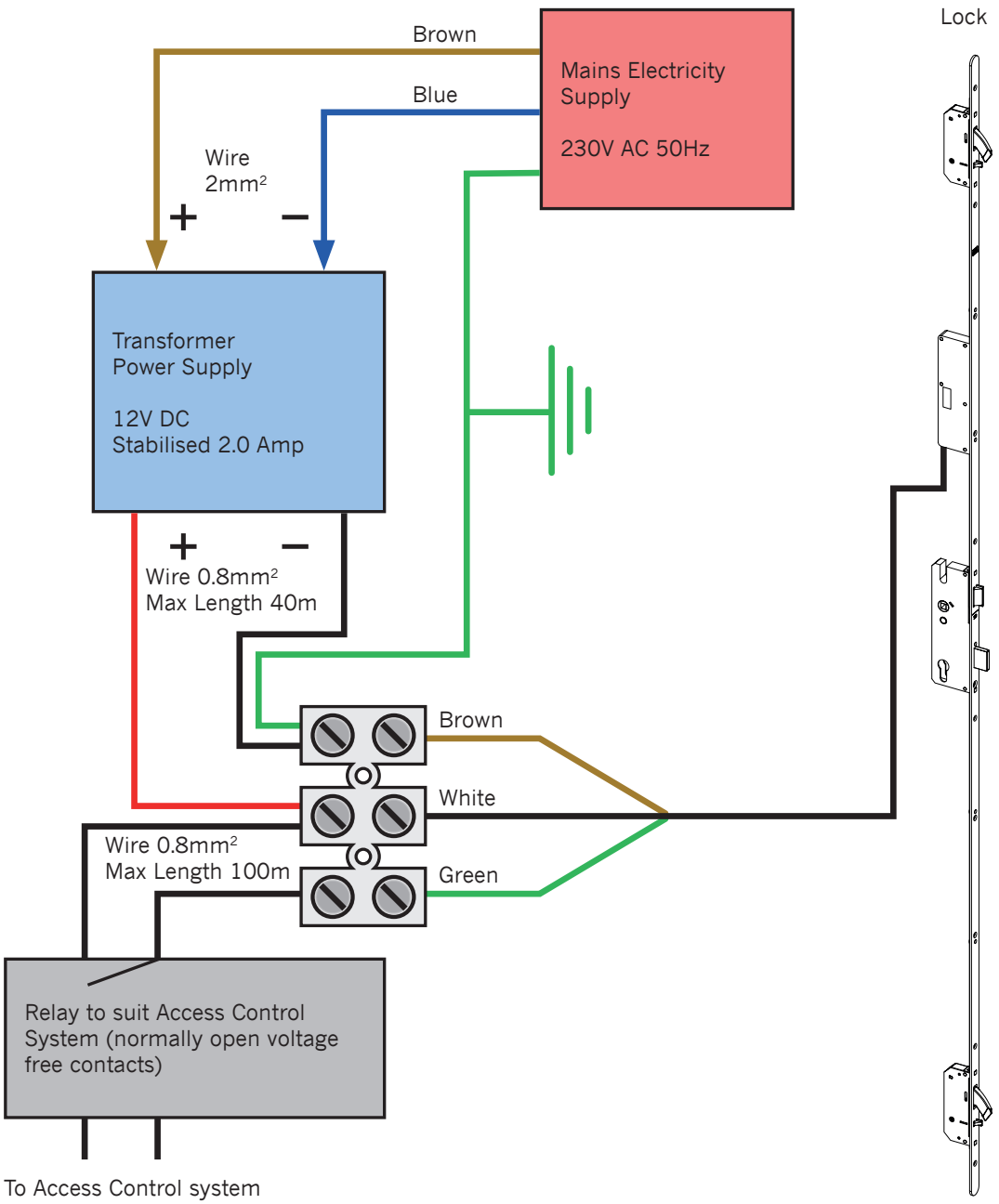
4.1 Wiring Diagram for Push Switch



All switching devices - Wires must be potential free “Clean Wires”

4.0 Wiring Diagrams

4.2 Wiring Diagram for Access Control



4.0 Performance Specification

All main entrance doors shall be fitted with a multi point locking mechanism which can be actuated mechanically or by access control.

The system shall incorporate:

- A Mechanical AUTOMATIC multi-point hook locking system, which throws two hooks as the door is closed without the need to lift the handle levers, securing the door.
- Locking achieved by two 25mm throw hooks.
- The hooks must not only penetrate the keep but also hook behind the keep rail to help prevent the prising apart of the sash and frame.
- The locking mechanism shall be withdrawn by depressing the handle lever from the inside, by articulating a key from the outside or by the specified access control system. The external handle shall be a fixed pad.

The lock shall incorporate a 12V electric motor capable of causing the mechanism to withdraw the hooks and latch. It shall be supplied with an appropriate power source, terminal block, armoured power transfer cable and other ancillaries as dictated by the specific functional requirements of the mechanism and the new or existing access control system.

- The locking cylinder shall be a Winkhaus supplied cylinder. The key operation will only be capable of a quarter turn and shall unlock the mechanism only.
- Where the Door system allows the hooks and latch must engage in a steel keep. The keep rail must incorporate compression adjustment for the latch and hooks.
- All exposed steel parts are to be plated to minimum plating thickness of 8 - 12 microns.
- The lock mechanism must achieve appropriate security and weather protection.
- Handle sets to be Winkhaus Palladio™ lever/fixed pad in either white, black , gold or silver anodised.
- All as per blueMatic AV2-E multi-point locking systems, or similar, to the above specification.

6.0 Troubleshooting

Symptom	Cause	Remedial Action	Checked Yes/No
Hooks do not throw	Incorrect door installation or keeps need adjustment	Check door installation and adjust keeps accordingly	
Hooks throw mechanically but will not retract electrically	Power Failure	Check for mains power supply to transformer	
	Incorrect power supply Over/ under voltage/current	Check low voltage side of transformer for 12 V DC 1 A	
	System not wired correctly	Check entire system against wiring diagram	
	Damage to Lock motor connecting cable	Check blue plug cable connection to motor. Check for damage to connector pins	
	Damage to surface mounted pluggable connection	Check connecting pins in each half of connector unit	
	Fused transformer	Replace fuse in transformer (1 A round, contact WH for spares)	
Motor tries to work but door cannot be opened	Dead bolt thrown*	Retract Dead bolt using key	
Motor stops during opening	Operating forces too high, faulty installation	Check installation, air gap, keep alignment etc.	
Does not operate with remote but LED is working	Remote not authorized	Program Remote with programming cards supplied	
	Out of range	Operate remote within 30m (unobstructed)	
Does not operate with remote, Red LED is not illuminating	Remote battery dead	Replace battery in remote	
No signal when key fob used	Fob too far from reader unit	Use within 50mm	
	Not held long enough in front of reader unit	Hold in position for up to 3 seconds	
	No Power	Check for ‘fused’ or “off” or in the event of Power Cut, wait for power to be reinstated	

*Available without deadbolt as an option

Winkhaus UK Ltd

2950 Kettering Parkway, Kettering,
Northants NN15 6XZ
Tel: +44 (0)1536 316000
Fax: +44 (0)1536 416516

www.winkhaus.co.uk
email: enquiries@winkhaus.co.uk