RF500 Installation Do's and Don'ts
Andy Wallace
14th January 2015

Installation of RF500 Guidance Notes for Distributors

During the Survey

Whilst onsite surveying the system, time can be well spent looking at the logistics of installation. If it can be arranged the person doing the survey is best placed to perform the installation also. If not, then time and care must be taken to make sure that the information recorded for the installation is accurate and all the detail included. Use the previously supplied survey forms to make detailed notes about the requirements for the site. Note positions of available power, and if possible try to build the system around these pre-existing positions. Having to add power points can be very expensive, so if possible try to avoid unnecessary additional points.

Always speak to IT during the pre-visits, and/or during the survey itself to confirm that they are happy with the arrangements. If network points etc., need to be made available then this is a great time to advise IT, and get this underway. Not having IT on side right from the start of the project can lead to conflicts and delays later on, so it is always best that they are kept in the loop. Even if the customer feels this is not a good idea, it is 'you' the supplier that is likely to suffer later on, as the customer will hold you responsible for any delays.

Health and Safety

Confirm access to all areas for the installation is OK. Ask yourself some basic questions about the logistics of completing the installation. For example; do you need specialist equipment to get to the more difficult to access areas, e.g. some portable lifting device for areas high up? Do you have the correct insurance and training requirements for your local area? It is important to be aware of the health and safety requirements before you have to go onsite. Some companies require 3rd party training before you can work onsite, and others will ask you to attend a training session on your first day onsite. Building sites for new premises can be problematic and generally require a different level of training before you can work.

Equipment

Confirm that you are equipped with the correct PPE and tools for the job. Battery drills are best as no mains power is required. Make sure all drills are sharp, and batteries charged, take spare batteries if there is lots of drilling to do. You might need longer drills for drilling through walls that are thick. Check this out during the survey. You may be required to provide your own ladder. For getting to high areas, over 3 metres up we recommend that you speak to the customer before the installation and arrange for specialist lifting to be available during the installation.

More IT

If the system is to have e-mails and SMS text messaging make sure that you have or are going to be granted the correct access on the network. Speak to IT during your visit. One item to discuss during the survey is to make sure that this is OK with IT. They can be very protective of their network.

Make sure that you get a customer contact onsite who is going to be the 'product champion'. It is essential to get the customer on board with the installation of the system as you will need that person to coordinate training of other employees!

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Installation

Gateway / Auto-dialler

The Gateway / Auto-dialler should be mounted in a dry environment. The PSU should not be in contact with the gateway. All cables leading away from the Gateway, including the Mains input, network cable and alarm outputs should be neat and tidy. All cables should be concealed in Electrical trunking where ever possible. To prevent accidental damage to the Gateway itself, do not leave the Gateway just lying on a desk. If the Gateway is knocked onto the floor serious damage can result and data might be lost. If the customer does not allow the Gateway to be wall mounted, then the Gateway should be positioned on a level surface. The customer must be made aware that the Gateway is not secure and is liable to be damaged; they are responsible for any damage.

Power Supply

Power sockets for the Gateway and Meshing Units should be provided by the customer as the PSU is a plug in type. The cable from the PSU to the units should be tied up in such a manner as to be neat and tidy. All cables should be concealed in Electrical trunking wherever possible and if using adhesive trunking also use a couple of screw fixings to make sure of a secure fixing. When mounting the trunking either vertically or horizontally, make sure to use a spirit level.

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Meshing Units

Transmitters should be mounted to the wall using the bracket supplied, using two screws. Alternately where the customer desires you may use double sided tape to secure the bracket to flat smooth dry surfaces. (Double sided tape can be ordered from IMG Ltd SimpleStik 12mm Part No ISSIN050) This will provide a very simple method of fixing the transmitter bracket to the equipment, all surfaces should be properly cleaned using standard probe wipes, part number PW70T. Power cables should wherever possible be concealed in electrical trunking.

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Outside

All transmitters fitted outside, exposed to the sun and rain must be mounted inside suitable waterproof enclosures. The Comark representative will provide suitable part numbers. Transmitters mounted in enclosures should be subjected to the same fixing methods as for inside the building.

LCD's outside in direct sunlight will fade with time. So if you do not wish this to happen then the LCD must be shielded from sunlight. If mounted in direct sunlight then drill a small hole (2.0mm diameter) on the underside of the box to allow condensation to drain away.

The PSU is only rated down to freezing. If possible for extreme cold, mount the PSU in a warmer area, perhaps inside the building and run the cable through the wall to the outside. Transmitters and meshing units mounted outside work very well.

Customer Requirements

A 240Volt waterproof fused spur or plug socket needs to be installed by the customer at the location agreed at survey unless an existing point can be utilized.

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Equipment – Walk-in Freezers and Cold-stores

Walk-in fridges, freezers and cold-stores are a little different as there is little chance of drilling into the working parts. However there is still insulation between the outer and inner walls which must be cleaned up after the hole has been drilled. The procedure for drilling is as follows, drill a 20mm hole then insert a piece of 20mm conduit into the hole then insert two 20mm closed grommets to cover both holes. A incision can be made into the grommet to allow the probe through.

A slightly different method is used when working in the roof void drilling down into the cold-store, drill down using the same method as above but instead of using a grommet fit the conduit with a 20mm female conduit gland and 20mm male gland insert the probe to desired length then tighten the male gland.

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Fridges and Freezers

For domestic fridges, and freezers, it is more usual to mount the transmitter on the outside of the unit and position the transmitter as high as possible, ideally with the antenna above the top of the equipment, run the probe through the seal. For -30 freezers and below make sure that the cable enters the freezer at the bottom of the door to prevent 'freezing up'. Make sure that the cable is flat by using masking tape and does not leave a big gap for air to escape. This can look very neat if time is spent to get the installation correct. It is a good idea to mount the transmitter such that the probe cable can be fed through the Door Hinge side so as not to be in the way of normal use. We will not drill holes in any fridges or freezers. All cables should be clipped to the equipment and power cables concealed in Electrical trunking wherever possible.

Note: Wherever possible use a dedicated port to run the external probe into the equipment (ie Incubator,Freezer,Fridge). If you wish to mount the transmitters on the inside of any equipment please make sure that this is the way that the system was surveyed. It is very important that the position of the transmitters is exactly as it was during the survey to be sure that the system will work.

General Notes on Drilling (Food sites etc.)

General drilling instructions are, get permission first, as it may not be allowed onsite! Drill a small amount at a time and try to ensure that debris is kept to a minimum, especially when there is food about. If necessary ask the customer to move the food.

Always check that you can drill when you want too. Confirm with the customer that there is no obstruction in the wall.

Door Switches

The same logic applied to Door Switches as it does to probes. Make sure the cables are neatly installed. Always make sure before you affix the door switch that it will work in the chosen location. Always mount the 'shoe' of the door switch on the non-moving part of the door. Try not to mount the door switch near the floor of a walk-in fridge, or freezer, as the use of fork lift trucks can damage them. Keep them off the ground and out of danger.

Be sensible in the location of the transmitter for the door switch. If there is a probe fixed to it also then it is logical to mount the transmitter so that anyone passing by can see the display.

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Conclusions

Use your common sense when installing RF500 equipment. Always check with the customer before drilling to make sure that it is OK and that you are allowed to drill the customers' premises. Try to be neat and tidy with the installation of cables when they are exposed for everyone to see.

When surveying the site do not use duplex probes to save cost for the customer if the two sensor points are a long way apart, more than 10m it will only cost you time when you come to install. If you have for example two fridges across the other side of the room from each other and you could use 1 transmitter and a 10m duplex probe, think twice before doing so. It would be so much neater for the customer and easier for you to install if you were to use two transmitters with shorter probes.

Don't under estimate the cost of installation, especially for duplex probes. Any profit for you could be wiped out on the time it takes to install long duplex probes.

Appendix 1 - Equipment Checklist

This is not an exhaustive list but as a general guide...

Battery Drill – Charged

Spare Batteries – also charged!

Drill Bits various sizes – sharpened

Long drill bit for drilling through walls

Screwdrivers – various sizes

Cable Clips – various sizes

Cable Ties – various sizes

Trunking

Screws – various sizes for mounting transmitters, Gateways and waterproof boxes

Double Sided Tape Simple Stik 12mm ISSIN050

Laptop – make sure you know how to set a fixed IP address for setting up the Gateway.

Network cable

Appendix 2 - Dimensions

RF500A Gateway Length: 225mm Width: 150mm Depth: 40mm

RF51X Transmitters Length: 134mm Width: 83mm Depth: 34mm

RF527 Waterproof Enclosure Length: 300mm Width: 300mm Depth: 175mm

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Appendix 3 - Best Install practice for Hilton and other commercial kitchens

Under-counter Fridges

For these under-counter fridges a RF512 Transmitter monitoring internal temperature must be used, to be installed inside the fridge using double sided tape in a position which will protect the transmitter from damage. (See photo attached)

Upright Fridge and Freezers

Where you have a Foster fridge with a front grill then best practice is to cable tie the Tx to the grill and run the cable in behind the grill and into the fridge as shown in photo.

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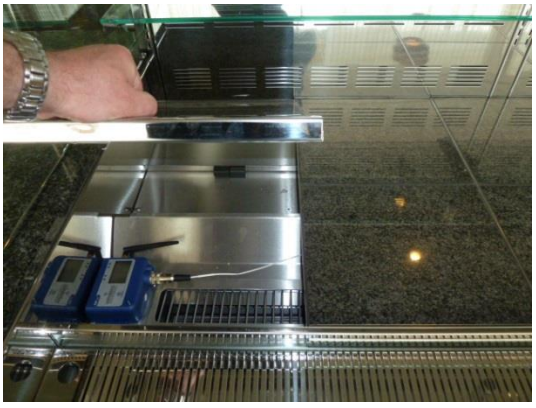
If it's not this style of fridge or freezer then use standard installation method, in certain circumstances the double sided tape will not stick to the surface of the fridge or freezer then mount Tx on top and use clips with silver masking tape to attach to the surface.(As shown in photo below)

Salad Counters

The Tx needs to be installed inside the counter with the probe fed through into the salad well, when performing a site survey this needs to be taken into consideration that the transmitter will be fitted inside the salad counter. (See picture below)



As for the rest of the installation (i.e. Walk-in Fridges and Freezers, Mesh Units, Gateway etc) the standard installation guide will apply.

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