A.S. 30 Motor Help Guide

Specifications

Rated Torque	30 Nm
Output Speed	17 RPM
Nominal Consumption Nominal	226 W
Voltage	240V
Nominal Current	0.95 Amps
Running Time (Max)	4 Mins
Protection Index	IP 44
Total Length	570 mm
Total number of channels	15
Maximum Turns between limits	infinite
Net Weight	2.45 Kg

Lifting Capacity (include weight of bar and skin only)

On 50mm tube	61 Kg
On 60mm tube	54Kg
On 70mm tube	47Kg
On 80mm tube	40Kg

These weights are general recommendations to allow for wind and drag etc. Actual theoretical lifting capacity is around double theses figures.

Using this motor to tension or torque stop

If, while travelling in an upwards direction, this motor detects a sudden jamming point between its limits, it will stop. At the point it stops, the motor will be pulling against the obstacle at 5% of its rated torque (or 1.5Nm). This allows the motor to be used to tension an awning that has robust locks and bottom bar or is secured with straps. Flexible bottom bars and plastic or lightweight locking systems are not suitable hardware when using a motor to tension.

This feature is particularly handy with products like Ziptrak at the top limit. If you install stoppers in the channels just below the set upper limit, then the motor will stop on the stoppers and pull the bottom bar straight every time it goes up. Ziptrak recommend doing this.

Thermal overload

Internal cut off temperature	160 Degrees Celsius (average 4 mins runtime from cold)
Return to use temperature	120 Degrees Celsius (Average 30 - 40 mins cool down)

Expected run time from 120 degrees – 160 degrees is about 30 seconds (or less)

To regain full runtime from thermal cut off is about 1 – 1.5 hrs in mild conditions.

Do not touch the body of a hot tubular motor. They can easily get hot enough to burn you.

A.S. 30 Motor troubleshooting

No Power

A.S. 30 motors will almost always give a jiggle when first connected to power, even if faulty. If you disconnect and re-connect to power (allow 5 seconds between) and the motor does not jiggle, then there is an 80% chance that there is no power going to the motor. If you verify that there is definitely power but still no jiggle on power up, then the motor is dead. If the motor does jiggle, you can progress with further troubleshooting.

Motor won't move

1. If the motor stops during installation or after a period of running, it may have hit thermal overload (see page 1). If the awning has been up and down a couple of times before stopping, this is the most likely cause.

2. Confirm that the motor definitely has power (see above)

3. Is the motor sitting on a limit? Sometimes people accidently set a bottom limit at the top for example or maybe there is an existing limit left over from testing at the factory. Try deleting the limits in the motor and trying again, but don't forget to reset the limits again once you have operation.

4. Has the controller or channel been assigned to the motor, or accidently deleted? Try re-assigning.

5. Has the remote battery gone flat? You cannot judge this by the light coming on or an indicator in a screen, as the light takes much less power than the signal transmission. Try changing the battery.

6. If the motor responds only when the remote is close to the motor or only during certain times, you may have interference issues. See the interference section.

Limits are moving or seem to be deleted

The limits in A.S. 30 motors are extremely reliable and are not generally prone to moving or being lost. There are however several reasons that this impression can be formed.

1. Difference in tension. When an awning is installed, the tension on the roll was gained by rolling it up on a table. This is different to pulling up a weighted bar. If the top limit was set before the awning has been down then the top limit may move a bit. If you make a habit of always setting the bottom limit first you will generally avoid this.

2. Expansion, contraction, rippling and varying flexibility of material. This is a common one. Different materials react in different ways based on temperature, humidity, quality and installation. Even a small ripple in the material can cause a visible difference in a limit and most significant problems will happen at the top limit as the common effect is that the top limit seems to get higher and may pull the bottom bar up into a head box for example. Clear PVC is by far the most troublesome material for this issue.

Use stoppers to stop the bottom bar going higher than it should. This motor will stop on those stoppers if it hits them. Ensure that the stoppers are robust and that the bottom bar does not have enough room to slip by them.

If not using stoppers, don't set the top limit too high, allow some room for expansion and contraction.

There is not much you can do about the bottom limits shifting a little in the seasons other than adjust to a happy medium. But this is not the fault of the motor.

Limits are moving or seem to be deleted (continued).

3. Always test a limit you have just set. The jiggle you get at the end is not a guarantee of a set limit, just an acceptance of a setup command. If you miss-press the learn button, the jiggle may be acknowledging a different command. In the case of setting the down limit for example, if you miss-press the learn button once, the jiggle will be acknowledging turning off step by step mode and will probably not affect anything, but the limit will not be set. So always test a limit as soon as it is set.

4. If all the above is accounted for and the limits of the motor itself appear to genuinely move or be lost then the motor will need replacing. This would only happen about once in every 4000 motors.

Interference issues

Unfortunately interference problems can often be difficult to resolve due to the short list of symptoms and the vast array of potential causes.

The most common symptoms are unreliable operation from the remote, difficulty during setting up the motors and having to hold the remote close to the motor to get it to operate.

The first step is always to ensure that the battery in the remote is fresh.

There are 2 types of interference. **Frequency specific interference** and **general RF noise.**

Frequency specific interference means that there is other equipment operating nearby on 433.92 MHz. This equipment will effectively kill off the signal from A.S. 30 remotes, as 2 signals on the same frequency will eliminate each other. The only way to correct this is to remove the source of the signal. Most equipment on this frequency will be relatively close by but it is possible it comes from a neighbour. Often the best way to determine the cause is to shut down everything electrical in the house except the motor and see if control works ok. If it does, bring other equipment back online one by one and see what kills the signal again. The biggest culprits for frequency specific interference are not limited to, but are often: wireless alarm systems, wireless audio/video transmitters, older cordless phones, smart TV's (especially those with wireless input connection boxes separate from the screen). A hand held frequency scanner can also be helpful in determining where a specific frequency is coming from provided you know how to use it.

General RF noise works differently. If the noise level is strong enough it's a bit like talking to someone next to you at a rock concert. They can't hear you because the volume of the concert is so loud that your voice can't penetrate through it. The cause of RF noise can be easy to find if on your own property, but very difficult to find if it is not. Again, turning everything electrical off except the motor will help determine this. Common culprits within a user's property are usually electrical motors from things like ceiling fans, heating and cooling systems, fridge motors, range hoods, pool pumps, electric gates, power tools etc. Areas close to lots of power cables together can be affected like near switch boards or next to a looms of cables bunched together near a motor.

If the source of general RF noise is not within the user's property, it can be very difficult to pinpoint. Common causes include electrical sub stations nearby, heavy machinery, petrol powered generators, high powered radio antennas (CB, ham radio etc). Strangely, these sources can often turn up for a period of days or weeks with no apparent explanation and then disappear again. It can be as simple as a neighbour's air conditioning system having a problem and then being repaired a few days later.

While interference issues are a pain to deal with, they are not the fault of the motors or controllers. Sometimes, however undesirable, the fix is to change the motor to a brand that operates on a different frequency. This is true of all makes of motors, on all frequencies, but testing is the only way to know.

Undesirable noises

Many nasty noises get attributed to motors without the motor being at fault.

Typically, any noise the motor actually makes is usually heard within a tube and wrapped in fabric. So nasty loud noises are rarely from the motor, although the motors presence can be a contributing factor.

Likewise, any noise heard while the motor is installed, will also be heard from the motor once it is removed from the awning, if in fact the motor is the problem. If a motor is allowed to run for a full minute outside the awning without producing nasty noises, then it's very unlikely there is any problem with the motor. The full minute of run time is so that the motor has a chance to get hot, as some potential motor noises only happen when hot. Beware of touching a motor that has been running as it may be extremely hot to touch, particularly the section around the middle and towards the drive wheel end. This heat will surprise most people but is completely normal.

Most nasty noises are caused by vibration of the hood or head box and it can be produced in a couple of ways.

All things have what is called a harmonic frequency, which is a frequency that it will naturally and easily vibrate. If the internal vibration of a motor is vibrating at the same frequency as the harmonic frequency of the hood, then you may hear that vibration being amplified (significantly) by the hood and it can sound like a loud grinding sound which may be attributed to the motor as it is the primary moving part. The way to fix this is to alter either the rigidity or the mass of the hood. In most cases, simply tightening it is enough to alter the harmonic frequency and reduce the vibration noise.

Friction is the other primary cause of nasty noise and is more commonly found at the idle end of the awning with the pin being a prime culprit often. If there is fabric, particularly an edge of fabric being dragged across a surface or edge, then this can produce horrible noise at significant volume as well. This works in a similar way to a bow being pulled across a violin string.

The reason these noises are only heard with a motor installed is because the motor produces a mild but constant vibration and runs at a constant speed. These things are generally required in order for the sound to gain momentum and increase in volume.