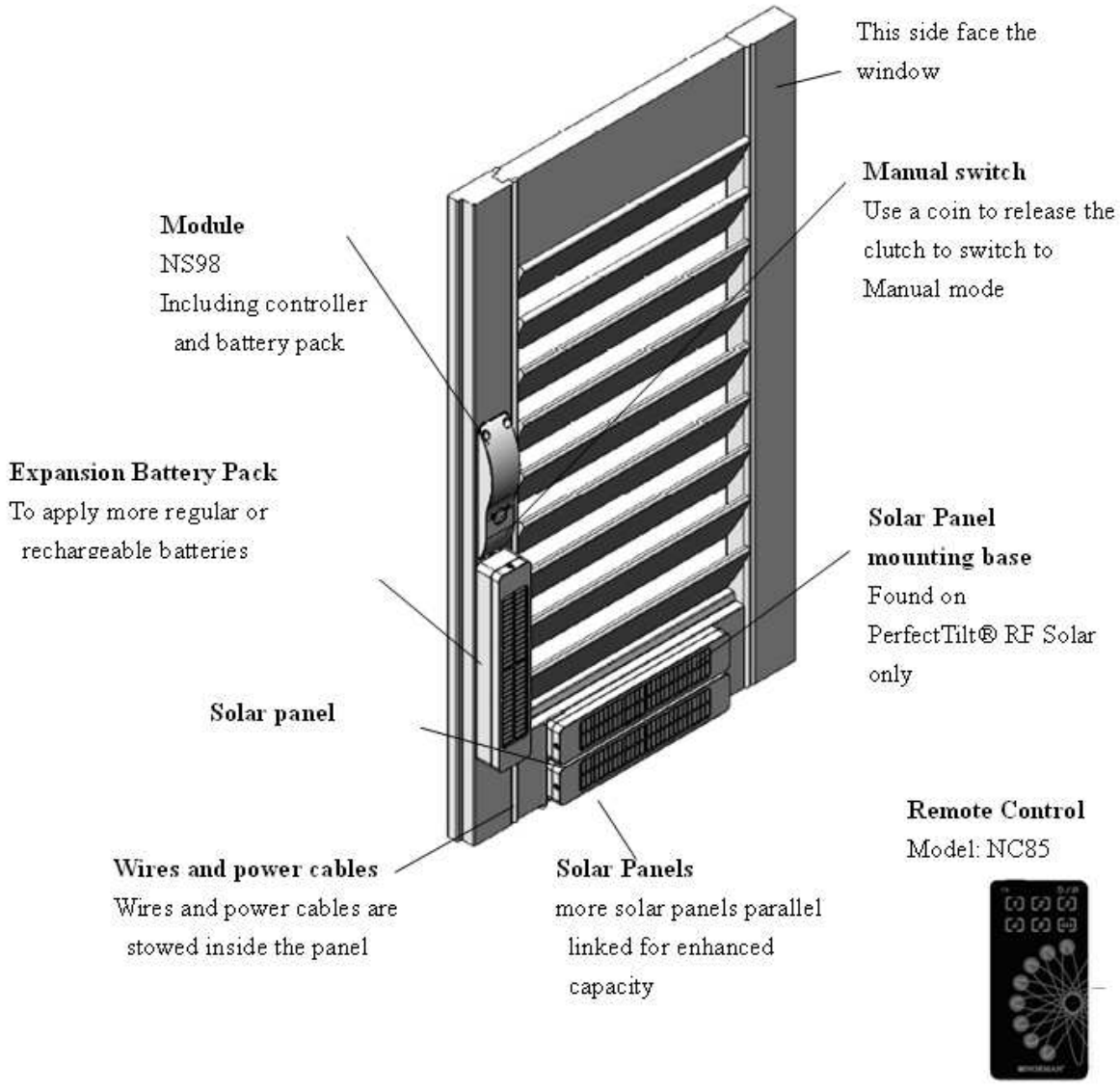
New PerfectTilt RF

The new PerfectTilt RF has many exciting features & benefits.

- Norman® is the only national brand that offers motorization on shutters
- No need to plug-in, no cords, no hardwiring
- Tilt multiple panels in sync or individually
- Includes InvisibleTilt™ system, a completely tilt-rod-free solution for a more streamlined view and improved energy efficiency
- Larger solar panels on solar modules absorb more energy than ever before
- Ergonomic remote includes 8 preset angles and can control unlimited number of shutters in range
- Utilizes RF signal, not traditional infrared: for precise reception, range up to 65 ft., no sensor holes, and no need to point remote directly at receiver
- Remote is equipped with a timer, allowing you to use your own computer from anywhere at any time with our proprietary web interface
- Whisper quiet, gear-driven system
- PerfectTilt® RF wires are concealed inside panel, completely hidden from view
- Extra battery packs can be installed as add-on for longer periods between recharges

Parts and Names:

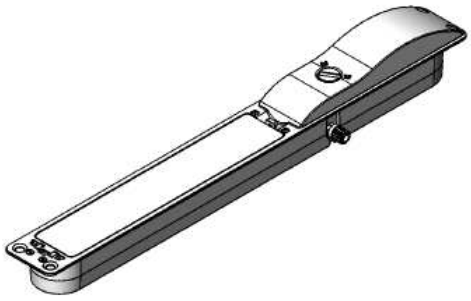
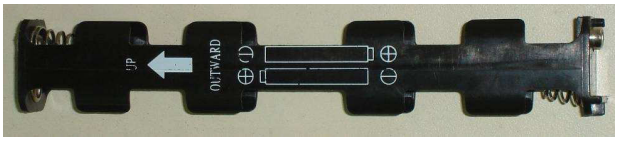
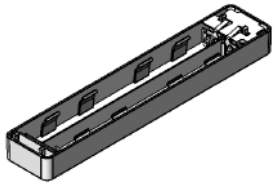
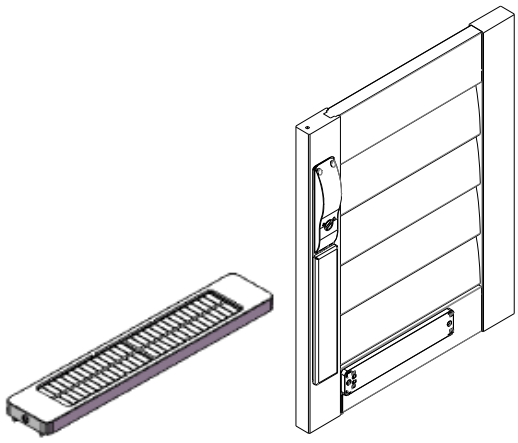
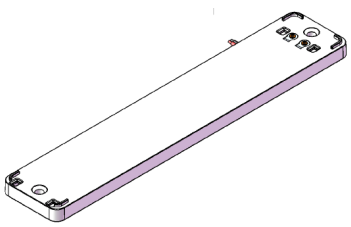


Specifications:

	New PerfectTilt RF
Shutter Type	All types except bi-fold double hung and Hang Strip OM: Beside Panels
Specialty Shutter Shape	All shapes except shapes without a vertical stile in the middle (for example, eyebrow, elongated eyebrow, half-round sunburst without horizontal louvers)
Tilt System	InvisibleTilt only, the tilting system will not split unless specified
Stile Width	2.25" stile only
Louver	2.5", 3.5", 4.5" Elliptical louver
Panel Size Limit	Min. Panel Height: 18” Max. Panel Height without divider rail: 78” Min. Panel Width Limit: 8 11/16”; 12 5/16” if solar panel is to attach to rail; Max Width Limit: same as regular non-motorized shutters
Motor Type	NS98
Remote Control	*Radio frequency *6 channels *8 pre-set angles *Built-in timer function **(is scheduled on 1st April, 2013)** *When ordering, customer needs to specify quantity
Options	Solar Panel/Expansion battery pack=> surcharge option; customer can choose to add as many Solar Panels/Expansion Battery Packs as long as space allows

Components:

Items	
Remote Control Model : NC85 Radio Frequency; Battery: 2×AAA. Dimensions : 122 x 62 x 16 mm Distance of transmission (control): 20 meters indoor, 40 meters outdoor	

Module Model : NS98 Colors Available: White; Coffee; Caramel Dimensions : 330.5 x 37.5 x 40 mm One for each louver section, 6×AA normal batteries or rechargeable batteries are required. Either alkaline or lithium batteries may be used.	
Battery cartridge Make sure the batteries are fit into the cartridge in correct direction, and when fit the cartridge into the module, also in right direction (follow the arrow).	
Battery Expansion Pack Colors Available: White; Coffee; Caramel Dimensions: 195 x 37 x 21.6 mm	
Solar panel Colors Available: White; Coffee; Caramel Dimensions: 195 x 37 x 13,5 mm Position: A. attached to the module itself (Default) B. attached to rail (Optional with surcharge)—For panels with modules below the mid rail or panels without mid rail, the solar panel will be attached to the bottom rail; For panels with modules above mid rail, the solar panel will be attached to the top rail.	
Mounting base (for Solar panel) Colors Available: White; Coffee; Caramel Dimensions: 195 x 37 x 8,5 mm With Power cable Colors: Coffee; White	

Color Coordinate Chart:

NO.	Color ID	Color Name	Module/Battery Expansion Pack/Solar Panel Color
1	003	Silk White	White
2	004	Bright White	White
3	006	Pearl	White
4	009	Creamy	White

Wood Cover

The battery cover of the module would come with a wood cover that covers at least half section of the module. And the color of the wood cover will match that of the shutter.

If Expansion Battery Pack or Solar Panel is to fix on the module, please keep the wood cover and in the future if the expansion battery pack or the solar panel is not needed, the wood cover can be put back in use.

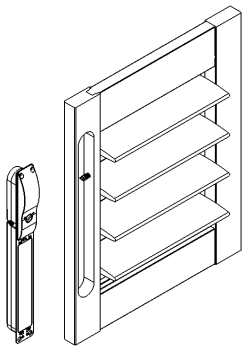
? Frame Cut-Out

For single panel or configuration similar to single panel with frame, the module location will conflict with the light block of the frame, so there will be cut-out on the light block of the frame to stop the conflict, the length for the cut-out would be 335mm

Clearance:

	Module	Battery Expansion Pack	Solar Panel	Solar Panel Mounting Base
Thickness	11/16"(17.5mm)	43/64" (17mm)	23/64"(9mm)	11/32"(8.5mm)

The module will protrude 11/16” from the back of the stile, please allow 3/4” clearance for the module.

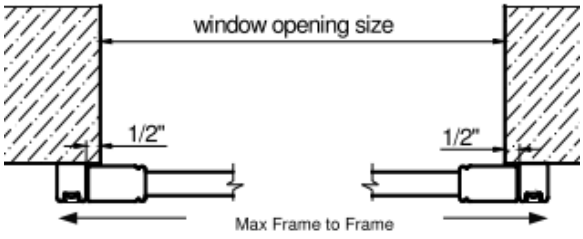


E.g.: Below is the situation **not available** for the module unless enough build-out is added

to the frame.

Hang Strip OM: beside the panels

When module is on the left/right most stiles, the protrusion part will conflict with the wall.



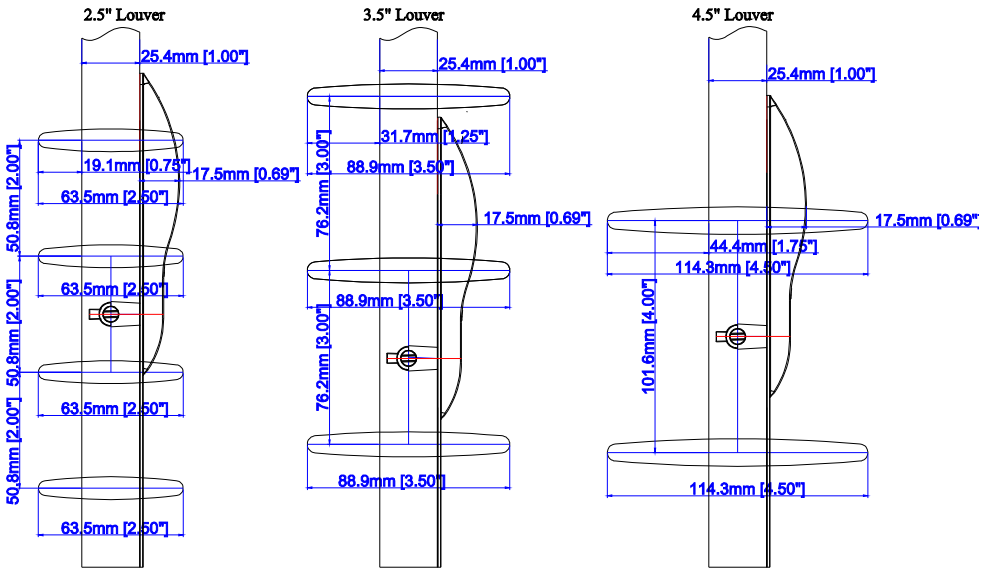
L Frame with light block thickness less than 3/4” OM:

When module is on the left/right most stiles, the protrusion part will conflict with the wall.

If both Solar Panel and one Battery Expansion Pack is attached to the module, the necessary clearance is 1 1/8”;

When more Battery Expansion Packs are needed, please add build-out to allow enough clearance.

Side view for module in panel with different louver types

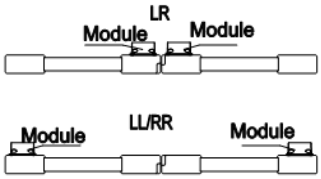


Module Location: (Invisible Tilt will be on the same side as the module)

For regular shutter and bi-fold Application:

1) Single Panel: Module will be on the un-hinge stile

2) 2 Panels: LL, LR, RR

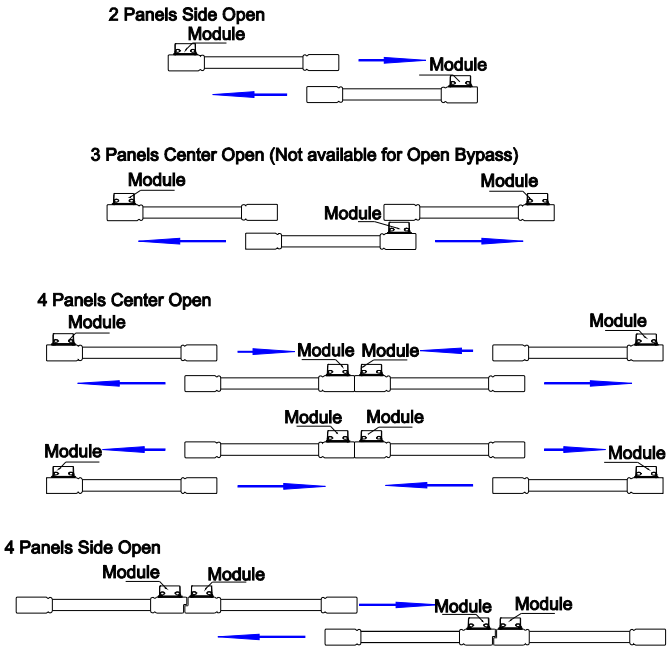


Special Note on Bi-fold Configurations

Please be aware that in bi-fold configurations of PerfectTilt RF, the motorization modules will touch each other when the panels are folded together, so the panels can't be able to stack together as tightly as that of the non-motorized shutters.

Additionally, before folding the bi-fold panels together, please ensure that the louvers are returned to a completely closed position (either up or down) to prevent louver damage when folding panels.

For By-Pass Application



For Special Shape Application:

Module location will be the same as the Invisible Tilt location.

Warranty

The warranty for the Module and the Remote Control Unit is 2-year under normal operation.

SHUTTER LOOK FROM FRONT AND BACK

The front side of the shutter

*No Receiver/Louver Cap

*Easy Tilt Only

The back of the shutter

*The light block would be cut out along the module.

*The battery cover of the module would come with a wood cover And the color of the wood cover will match that of the shutter.

HOW TO MANUALLY OPERATE THE LOUVERS

At the back of the motor, there is an “M” and “R” which is a remote switch.

*Turn to M to manually operate the louvers and turn to R to use your remote to operate the shutter.

Note: Forcing the louvers to rotate without turning to M will cause serious damage to your PerfectTilt® RF system.

HOW TO USE THE EXPANSION BATTERY PACK

Expansion Battery Pack is to provide longer operation time of shutter.

Remove the battery cover and wood cover, and fix the Expansion Battery Pack to the module. More can be added if the space allows.

*Expansion Battery Pack can be attached to the module

*Make sure to use same type batteries in both the module and the Expansion Battery Pack.

HOW TO USE THE SOLAR PANEL

* Make sure rechargeable batteries are used in the module or the Expansion Battery Pack when using with Solar Panel

*Solar Panel Position:
a. Attached to the back of the module or the Expansion Battery Pack

b. Installed on the rail (Optional with surcharge) factory will prewire and install the mounting base.

For panels with modules below the mid rail or panels without mid rail, the solar panel will be attached to the bottom rail;

For panels with modules above mid rail, the solar panel will be attached to the top rail.

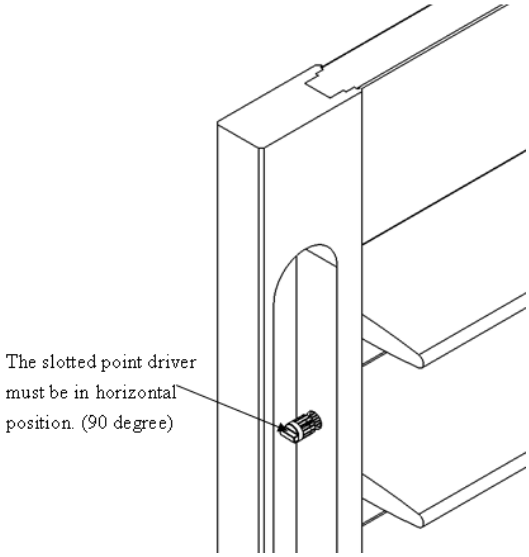
If Expansion Battery Pack or Solar Panel is to fix on the module, please keep the wood cover and in the future if the expansion battery pack or the solar panel is not needed, the wood cover can be put back in use.

HOW TO FIX LOUVERS THAT ARE OUT OF POSITION

Firstly find out the louver out of position;

Next please grab three louvers above or below the louver in different position.
Then grab the louver out of position and tilt it up/down to put the louver back to the correct position.

HOW TO REPLACE THE MODULE

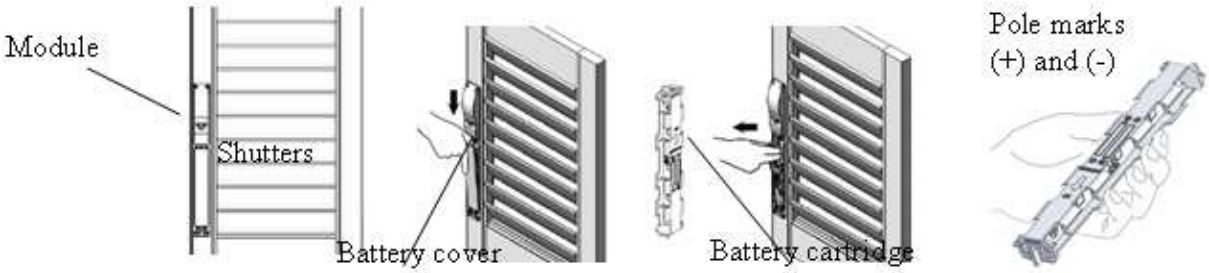


*The module can be taken out of the stile when the louver as well as the slotted point driver is in horizontal position.

*The customer could also fix the module into the stile when the louver as well as the slotted point driver is in horizontal position.

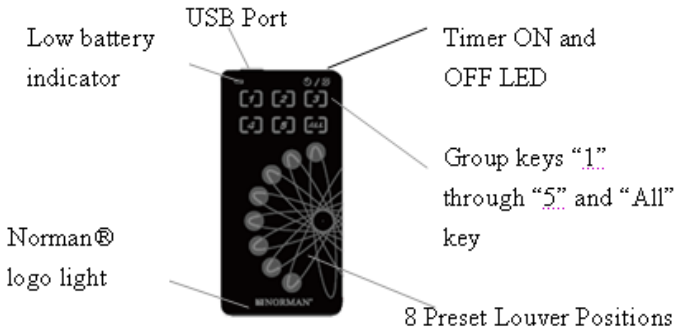
HOW TO REPLACE BATTERY FOR THE MODULE

To install batteries to the open the battery cover. Remove the battery cartridge. Insert batteries (AA batteries *6) matching the (+) and (-) marks inside the battery cartridge. Put back the cartridge and reinstall the battery cover.



HOW TO USE THE REMOTE CONTROL

Remote Control Buttons and Indicators



Low Battery Indicator:

5-second flash = Remote Control out of battery

Series of short half-second flashes = Module out of battery

USB Port (Timer Function): is scheduled on 1st April, 2013

Norman Logo Light:

Light on = Remote Control ready

Light off = Remote Control in sleep mode

*When you shake the remote control, you will hear small sounds like there is something loose in the remote control. That is a vibration set to wake up the remote control.

8 Preset Louver Positions

Each of the "Angle" keys corresponds to a desired tilting position, spanning the entire arc of the louver's movement

Group keys “1” through “5” and “All” key

The keys “1” through “5”control shutter modules grouped in “1” to “5” groups, each group can consist of unlimited numbers of shutters that are in range.

The “All” key controls shutter modules in all groups at once.

HOW TO REPLACE BATTERY FOR REMOTE CONTROL

The remote control requires 2 AAA batteries. To install the batteries, turn over the remote and open the cover. Insert batteries (AAA batteries * 2) matching the (+) and (-) marks and cover the bottom cover. If the battery has been properly installed, the NORMAN® logo will light up.