DualSense Controller Optimization Guide - 2025

DualSense Controller - Optimization Guide 2025

A comprehensive guide answering most common questions.

Resolving sensor wear, choosing high-performance TMR encoders, potential extended lifespan, and calibrating analog sticks.

by Vizr

[Last Update] 08/28/2025 [View Mode]

⚙️ Models Supporting Calibration

Controller types	Firmware update	Customize
DualSense® wireless controller	✓	-
DualSense Edge™ wireless controller	✓	✓

- **PS5 DualSense**, and **PS5 DualSense-Edge** supports recalibration for joysticks PC
  - DualShock Calibration GUI
  - DualShock tools Calibration GUI.
  -
  - Gulikit Test & Cal
  - For Edge Modules use this first GitHub - lewy20041/cal script

Note: Supported boards DS BDM-050 | BDM-040 | BDM-030 | BDM-020 | BDM-010 | DualSense (ZCT1W)

💾 PS5 controller Firmware

🖥️ Update Instructions

- **App Mirrors**:
  - 📥PlayStation® Accessories [Download for Windows] [official]

Note: For detailed information and PS5 gamepad firmware [Changelog - placeholder]

⛔ Troubleshooting | How To:

- Pair a DualSense Wireless controller - [**Sony Support**]
- Troubleshoot Controller Issues - [**Sony Support**]

📚 Calibration Tutorial (DS5 & DS-Edge)

⚠️ Important Behaviors

Bugs: *Calibration can break after voltage spikes or boot-ups, quick-action and rotations, cancellation of the tool before finalising the process.*

Causes irregular expansion, mis-coordinated inputs: as in physical inputs labeled in a different sector/quadrant, gamepad unrecognized joystick sensors. Note: Although less prevalent with potentiometers & TMR sensors.

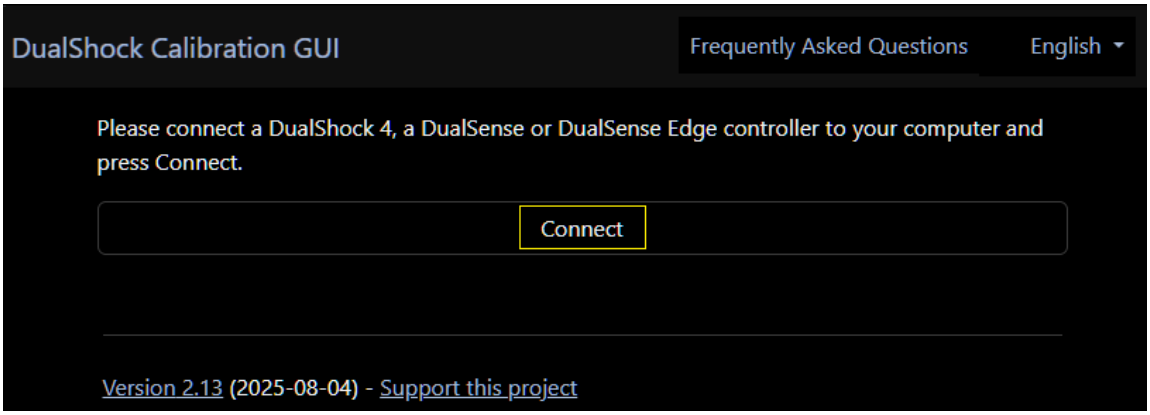
- First Rotation will be the calibrated circularity (upon gamepad reboot)
- Second and all rotations after will be your true results. 0.5-1% avg below

📋 Step-by-Step Guide

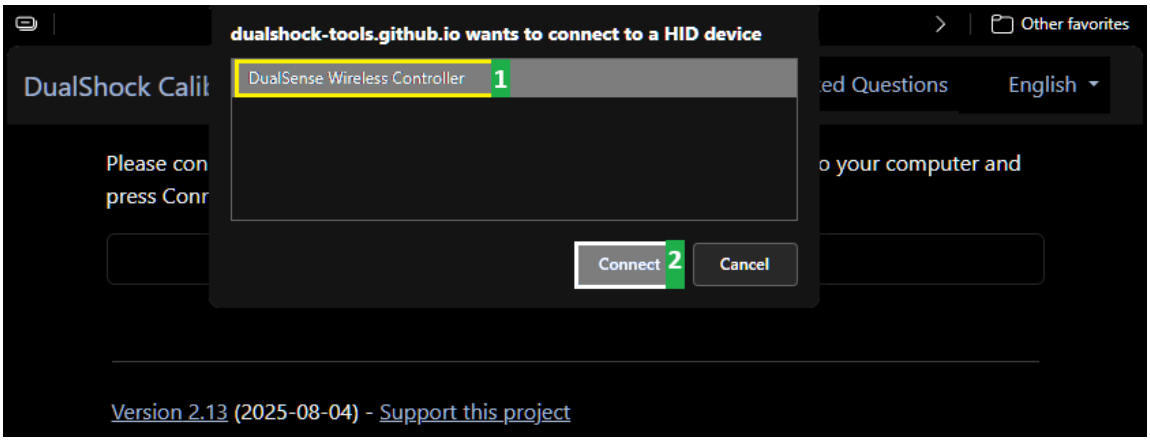
Use hardwaretester.com/gamepad alongside the **DualShock Calibration GUI**

Note: Make sure your PS5 gamepad is on the latest firmware. Open both sites to follow its progression. side-by-side

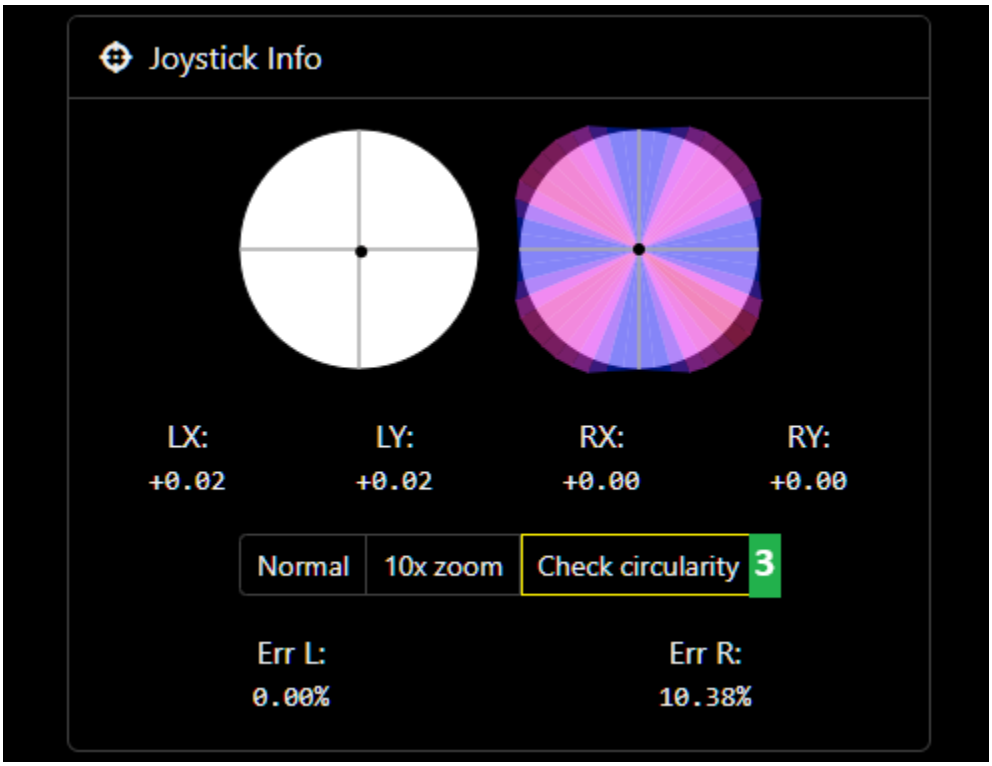
☐ Select ***Connect** → open both sites to follow its progression. Side-by-Side



☐ Select your controller, then click *__Connect__



☐ Once connected → Click ON, *__Check Circularity__ (Do a full rotation clockwise and Counter-clockwise)



Note: 12 Sectors will paint on each of the 4 Quadrants.

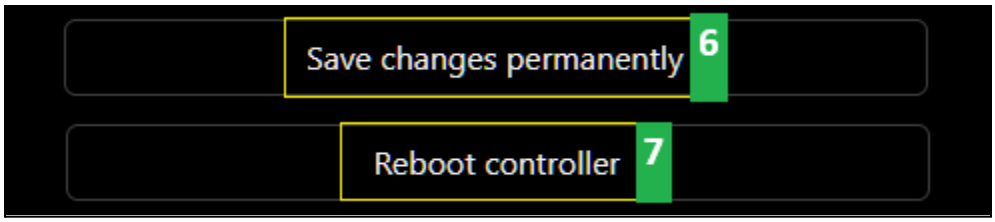
☐ Select *__Calibrate stick center__

☐ A pop-up window will show → Select *__Start__ (follow the process is description)

Note: For the Diagonal input maintain it on the center yellow line of the 12 sectors. Then let go.

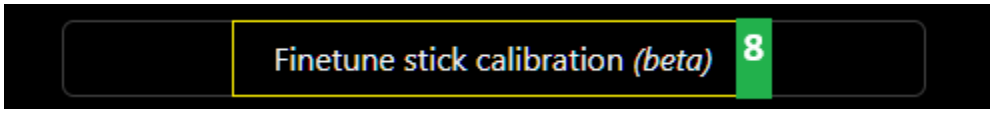
☐ Select ***DONE**. → Next you will Select ***Calibrate stick range**

☐ A new pop-up window will show, you will proceed to do 6 controlled rotations *clockwise* and *counter clockwise* (for a total of 12) on the Left-Stick & Right-Stick individually. Once completed → Select ***DONE**. → ***Save changes permanently** → ***Reboot Controller**

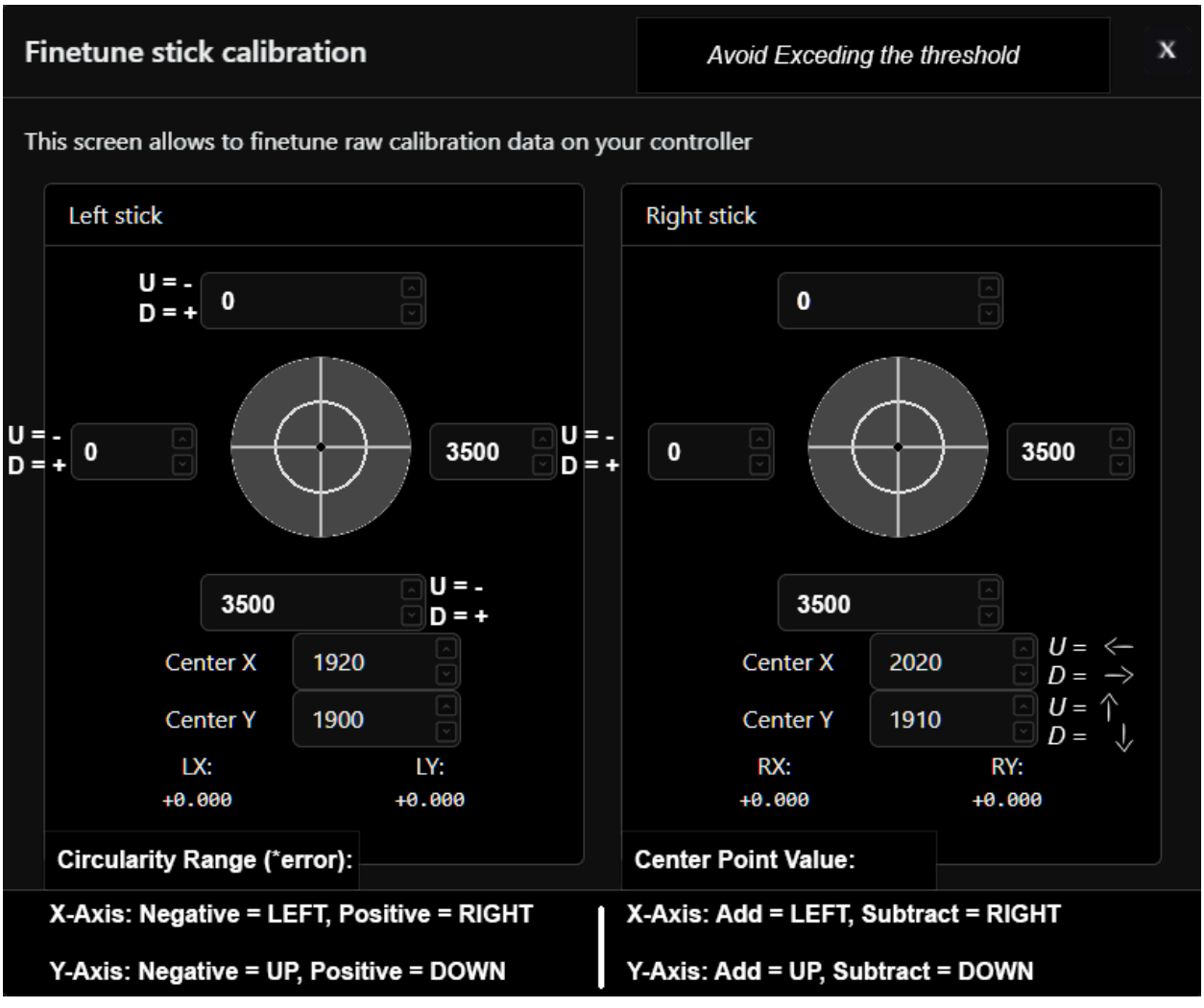


☐

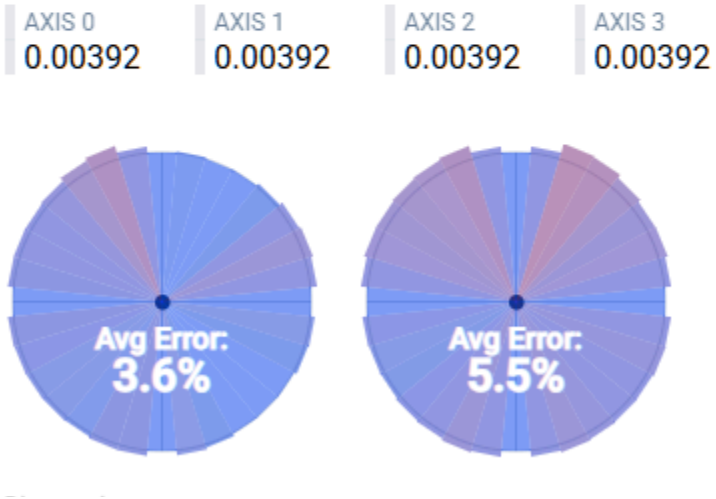
☐ Proceed to Select ***Finetune Stick Calibration** *(beta)*



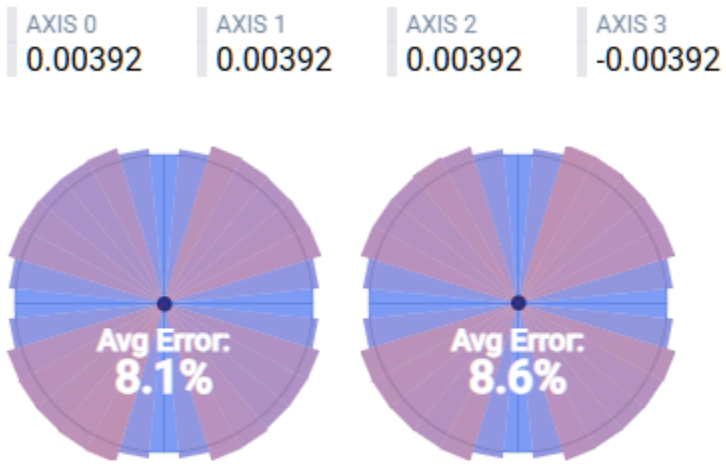
Note: if sporadic behavior occurs while calibrating. And solder joints are sound. Simply reboot the gamepad and retry again. (If you go below 2600 the Bottom or Right threshold simply increase the value, if you go over the threshold of 4000 decrease the value, You can't go below 0 on the Top or Left, don't exceed the upward threshold either.)



Before:



After:



[Video Tutorial - Placeholder]

- - - - - - - - - - - - - - - - - -

💎 Ideal result: Factory Standard of a Symmetrical ≥8% Circularity.

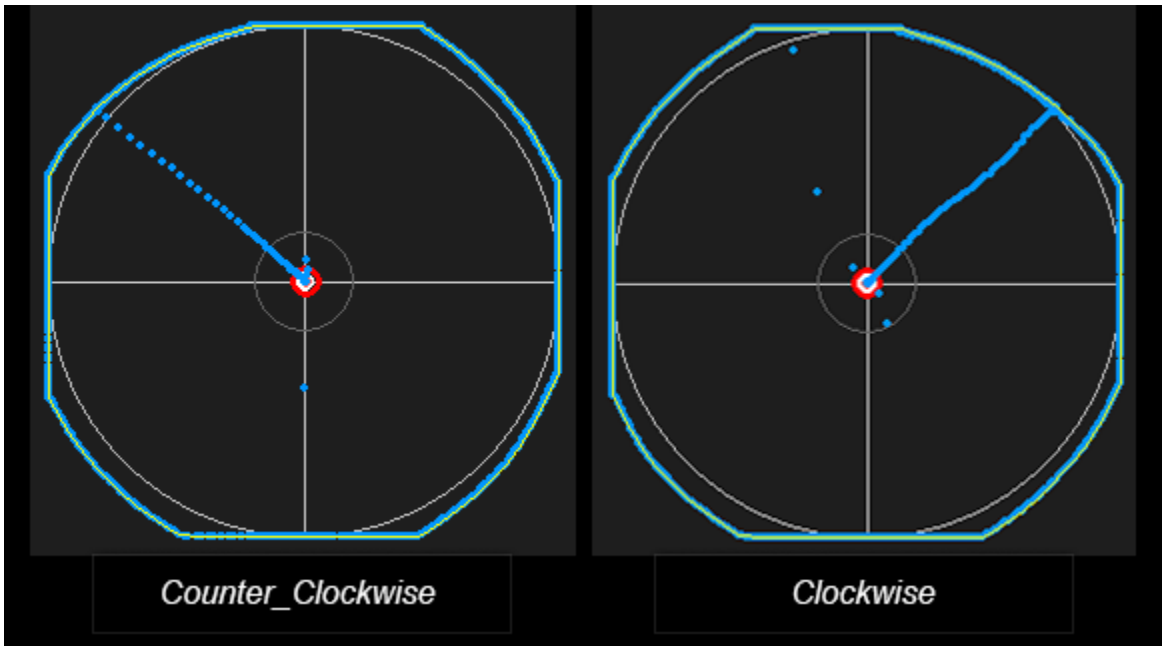
Note: 1.0 = 100% cardinal max out at 0.5-1mm off the gate. With proper expansion at 35° angles.

*error = range, more on preference.

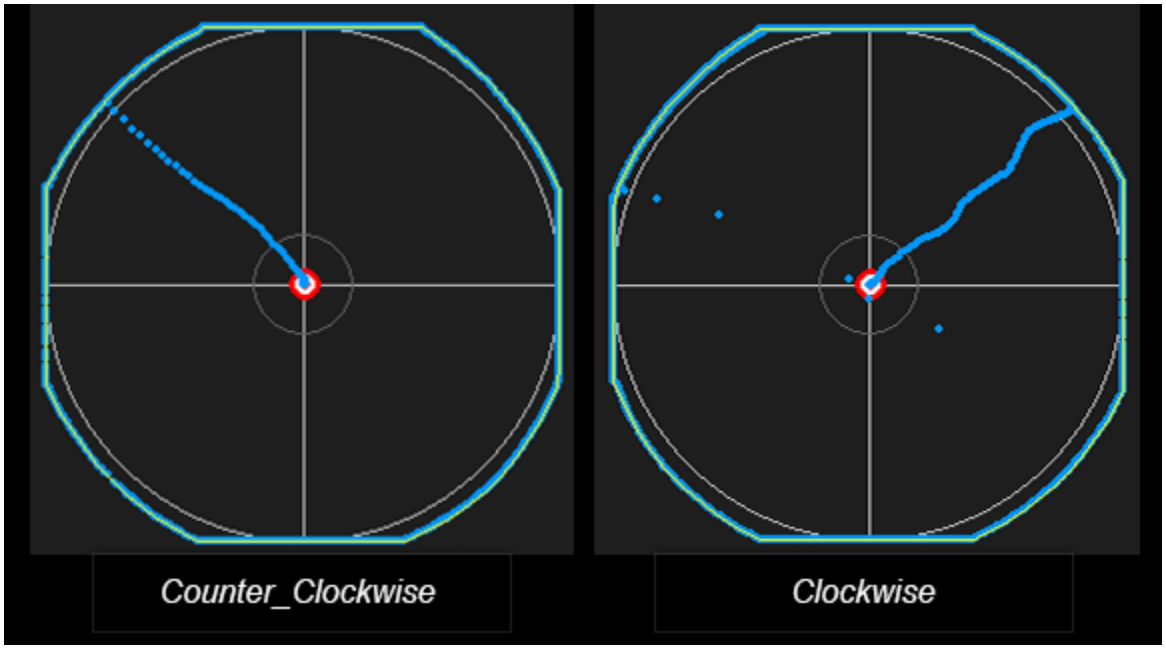
⚠️ Important: Avoid Misalignment

1. Shifting circularity based on rotation clockwise & counter.
    - Avoid misalignment. Keep a flat Module on PCB.
    - Don't push against it with excessive force while soldering
    - Keep the Sensors levelled.
    - Make sure one end is not pushed outward.

Before: Sensor Misalignment (tool used here by [John Punch])



After: Module, Sensor, Magnet aligned (*before fine-tune)



💬 Community Help & Support

[Document will be Updated often as new information becomes available]

Connect with modders, testers, and support:

- AKNES Discord
- AlieExpress Hall Effect

🔍 Alternative Modules/Sensors

🔍Understanding Drift

- ***DRIFT,** is not simply sensor failure - often caused by worn potentiometers, noise, misreads or calibration errors.
- ***Mechanical Slop** - instances of this phenomenon can be attributed to give & slack. Warpage of compression springs. Wobble from misalignment is especially common in older controllers with use do to failing internal components.
- [Link Placeholder - Differences & Distinctions]

🧠 Sensor Education: Learn About TMR Encoders

1. On-Axis vs. Off-Axis Sensors (Allegro Micro)
2. *TMR Angle Sensors vs On-Axis(Allegro Micro)
3. TMR Sensor Overview (NVE Corp)
4. Electronics Modding Channel - MetalPlasticElectronics354

- 🧲 **TMR sensor technology**: Uses magnetic field sensing for contactless operation, eliminating the issues of sensor wear.
- 🔋 **Low power consumption**: Typically between 0.1 - 0.3 mA, much lower than traditional Hall effect sensors or Standard Potentiometers
- 🛠️ **Direct replacement**: No circuit modifications needed, though soldering is required.
- **TMR** and **Hall-Effect** sensors can potentially last longer.

Disclaimer: *Random burn out, sporadic behavior is possible, prone to magnetic interference (EMI), extended Heat exposure while installation is done can shorten its lifespan exponentially. Handle with care. (Sensors are rated for 2+1 sec at 200°c.). Allow for adequate heat dispersion when applying solder.*

- Drift Solution or Hype by Greg's Gaming
- [Link Placeholder]

🕹️ Alternative - Joystick Modules & Sensors

📊 **Rating Level:** Grading System and Formula 2

Max Stars = 60, adjusted to ⭐**0-5 RATING**

🟥	🟠	🟡	🟩	🟢	🟦	🟣	🟫
F	D	C	B	A	S	O	Z
0-0.9 -0.5	1.0-1.9 -0.25	2.0 – 2.9	3.0 – 3.9	4.0 – 4.9	+0.25	+0.5	+0.25

Note: ratings will be adjusted as newer models get released or issues are found.

Note: Some modules suffer from an assembly flaw. Minor gap on the Y-axis. Shift alignment up&down. Re-assemble can fix the issue.
Video Example

Inputs: Rating Response Curve & Linearity tests are performed under controlled time frames of 4.5, 6.5 & 8 seconds. 10 instances for each. (with up to ±0.2seconds in deviation to account for manual error, I will be changing my flawed manual method for an automated and mechanised format)

🔄 Off-Axis TMR Encoders

Gulikit TMR [23.95] [⭐1.99]

1. Gulikit NS51 TMR → v1_WVB°2F_Black (older variant, rust housing, underperform)

- Decent Input Response, Steady signal, Minor Delay in curve, 83% overall avg.
- **Module**: RJ13-variant, Lower Friction and Improve mobility, combine magnet & sensor assembly, Great recentering ±5% (0.025), stock feel+10gF tension, Thin Lateral Supports ≥0.8mm, Total Height: 19.1mm
- **Issues**: Y-Axis under performance. Most units, rotation and clicking cause a new point of pivot. Leveraging the component laterally if there's give on the module. (Flaw on all rj13 on this spec) [Video Example]
-
- 2-4% circularity avg. (Higher after adjustment 6-10%, without the an alignment sudden shifts in range can happen from shifting voltage outputs)
- Performs best with certain firmware distribution 5.22/5.23
- Video Example & Video MPE - Youtube
- Gallery

Gulikit TMR - 720° adjustable tension [28.70] [⭐2.39]

2. Gulikit NS55 TMR → v4_Black_XCB°2F → adjustable Tension module [***out now***]

- Great Input Response, Steady signal, Marginal in curve, 89% overall avg. 2-4% circularity avg. 2-4% circularity avg. (apply a *Fine-Tune)
- **Module**: RJ13-variant, Lower Friction and Improve mobility, combine magnet & sensor assembly, Great recentering ±5% (0.025), 85±30 tension, Thin Lateral Supports ≥0.8mm, Total Height: 19.1mm
- **Issues**: To be determine
- [Gallery - Placeholder.]
-

AKNES TMR [26.25] [⭐2.19]

1. Hallpi TMR → v1_WVB°2F (older variant, underperform)
2. Hallpi ak205 TMR → v4_Blue_XJG°2F (improved QC, improved inner voltage)

- Decent Input Response, Steady signal, Marginal in curve, 88% overall avg.
- **Module**: RJ13-variant, Lower Friction and Improve mobility, combine magnet & sensor assembly, Great recentering ±5% (0.025), stock feel+10gF tension, Thin Lateral Supports ≥0.8mm, Total Height: 19.1mm
- **Issues**: Y-Axis under performance. Most units, rotation and clicking cause a new point of pivot. Leveraging the component laterally if there's give on the module. (Flaw on all rj13 on this spec) [Video Example]
-
- 3-6% circularity avg. (Higher after adjustment 6-10%, without the an alignment sudden shifts in range can happen from shifting voltage outputs)
- highly supported, great customer service
- Performs best with certain firmware distribution 5.22/5.23
- Video Example from MPE - Youtube
- Gallery
-

Note: For Off axis sensors on the top position. Your thumbcap must sit at a certain height. If too low a position. When calibrating there can be less range. If too high the same phenomenon can happen. To help with this,

- Lift the thumbcap by 0.4-1.4mm depending on clearance/preference.
  - Example: Assembled thumbstick height.
  - Using a few layers of tape or 0.6-1.4mm Riser [Download .stl file]
- For X | Y-Axis underperformance - “Fine Tune” via physical methods
  -
- Gallery

* *AKNES* TMR v5

(Beta) **[36.20] [⭐3.02]**

1. Hallpi ak202 TMR → v0.0.5_XOD°2F_Blue (***early test kits***, outer range extended avg of ≥1.5% over v4, circularity stabilised, improved)

- Great Input Response, Signal Stabilised, Nominal curve. 92.25% overall avg. 6% circularity avg
- **Module**: RJ13-variant, Lower Friction and Improve mobility, combine magnet & sensor assembly, Great recentering ±5% (0.025), stock feel tension, Thin Lateral Supports ≥0.8mm, Total Height: 19.1mm
- **Issues**: To be determine
-
- Tested a PS5 model sensor. Early Manufacturer test Unit. Not the final product.

(Final) **[34.70] [⭐2.89]**

2. Hallpi ak202 TMR → v5_YOD°2F_Blue (Mass-Manufactured unit, ***coming soon,*** *ehh -2% in range)*

- Great Input Response, Signal Stabilised, Nominal curve. 93% overall avg. 2-4% circularity avg. (Desperately needs a *Fine-Tune)
-
- Gallery

Note: Mass-Manufactured unit, *avg -2% in range (initial Cal) compared to v4. Yet non-linearity is less by 5 points*

Jinfu/GINFULL TMR [41.70] [⭐3.48]

1. LT4K→ 1st Batch_XKF°BF (minor QC hiccups)
    - ☐ ALPS mount variant LT-5A_XKG°BF
2. LT5B (5A) → 2nd Batch_XMP°BF (consistent)
    - ☐
3. LT5C → 3rd Batch_Orange_XMO°BF (range is lowered abit.)
    - ☐ ALPS mount variant LT-3C_XMJ°BF

- Great Input Response, Consistent signal, Close curve, 94% overall avg.
- **Module**: RJ13a1p, Lowest Resistance smooth mobility, same dimension for 4points of contact, no-contact sensor assembly, Exceptional recentering ±1% (0.005), Wider Lateral Support ≥1.8mm, Metal Housing aligns clicker, Total Height: 19.2-19.5mm
- **Issues**: 1st Batch revision may have either sensor issues or an assembly misalignment.
    - Causes downward inputs on the Y-Axis to expand further than its calibration. It can be mitigated by shifting the magnet then calibrating.
    - New v1+ modules with the White Lateral Support have an odd wobble when rotating. Switching to the older slightly transparent plastic supports and reassembling can remove the issue.
    -
- 7-9% circularity avg
-
- Video Example from MPE - Youtube
- Gallery

4. LT5E → 4th Batch_YOE°BF (***No-filter/Bypass Cap*** *may response quicker _Yet to test*)
5. LT-6? → 5th Batch_???°BF (***Coming Soon)***

- ***New Module:***
    - Model name: ***DS13-Max*****:** *Precision Through Structure*

    - **Full Metal Housing**: By using the entire metal shell for alignment, Ginfull is addressing one of the most persistent issues in these modules. Micro-gaps that cause lateral wobbles and warping of internal components.
    - **Improved Assembly Tolerances**: This design minimizes sensor misalignment during production, which could mean better consistency across batches.
    - **Likely Benefits**:
        - May reduce calibration changes
        - Smoother return-to-center
        - Less need for post-install shimming or adjustment
        - Fixed 4points of contact.
- Gallery

Note: *It seems some v3 has this well.

Depending on Variance Total module height can be lower or higher than expended. Trimming plastic off the stem can be filed off when clearance is needed. For shorter modules; you can increase the stem length for the Right-Sticks Thumbcap, which can help with the calibrated range. On the Right-Stick.

By Using a few layers of tape or 0.6-1.4mm Riser [Download .stl file]

Puyao/Favor Union TMR [28.45] [⭐2.37]

1. **[M] -** 2515-2522 Batch_Green_XLF°BF
2. Alt. Modiflow - 2510-2516 Batch

- Fastest input response, (+ lacks filter caps, moderate signal instability in certain cases = [Y]), Nominal curve [B], 92.6% overall avg
- **Module**: FJHK10K-0016a, Less friction and improve mobility, combine magnet & sensor assembly, same dimension for 4 points of contact, slightly higher tension than stock +15gF, Notable Recentering ±2% (0.01), Thin Lateral Supports ≥0.7mm, Wider tach switch clicker, Total Height: 19.5mm
- **Issues**: it's compression spring, calibrates too low in range, terribly inconsistent, magnet sits too low for the sensors height
-
- 2-5% circularity avg
-
- Video Example from MPE - Youtube
- Gallery

Note: Although it uses a similar sensor to that of ginfull; magnet/sensor position, and module can drastically change the performance in a negative way.

For Off-Axis sensors on the bottom position. Your thumbcap must sit at a certain height. If too high a position. When calibrating there can be less range. To help with this,

- File plastic either off the base or the stem by 0.2-0.6mm depending on clearance/preference. Can help.
    - Example: Assembled thumbstick height.
    - Just in case, not needed_Favor-Union Thumbcap Riser just in case 0.6-1.8mm [Download .stl file]
- For X | Y-Axis underperformance - Adjust magnet Position
    - By 0.1 - 0.4mm
    - Gallery

📐 Angle TMR Encoders

Note: speculated to behave with Very Close [96-97.9%] or True Linearity [98-100%]; possibly the first real replacement for potentiometer. But could have lower yields due to production issues with a decent percentage of units depending on manufacturer. First revisions didn't meet expectations. Keep an eye out!

K *K-Silver* TMR [24.50] after penalty [⭐1.89]

1. JS13-01 → v1 off-axis_5E°WM [*DISCONTINUED*]
2. JS13-006-Pro → angle TMR_1st-2nd Batch_WYA°3D (2nd Batch improved on internal pressure & misalignment, to much of 1st is roaming around)

- Fast Input Response, moderate signal instability, Close curve, 94.7% overall avg
- **Module**: RJS13-006, Lower Friction and improve mobility, Similar to stock ALPS feel -10gF, no-contact sensor assembly, Inconsistent Recentering ±6% (0.030), Thin Lateral Supports ≥0.6mm, Total Height: 19.4mm, Housing: uses a Non Ferrous Metal alloy, fixed magnet.
- **Issues**: Plenty of issues
    - small % of units initial input pull back then bounces forward. As if voltage is leaking.
    - DOA or random burn out
    - Can be assembled with give shifting components.
    - Warping lateral support, Internal pressure is too much.
    - Consistent Right side Y-axis underperformance while rotating
    - Inconsistent centering. 0.003-0.05
    - Prone to EMI interference. HE trigger system, internal speaker may be an issue.
- 6-7% circularity avg
- For adjustable tension setups (try the older jh13 adjustable module + Hallpi sensors] this method by TryhardCustoms.
- Video Example by MPE - Youtube
- Gallery
- Requires (5% inner deadzone)

3. JS13-006-Pro → angle TMR_3rd Batch_XQA°3D or XQB°3D (tested)

(**NOW AVAILABLE** on Amazon, AliExpress, Taobao, AliBaba)

- Video Example from Eythavon - bilibili
- Video Review from MPE - Youtube
- Video Example from monuru - Youtube
- **Issues**: similar to older batches, more to be determined
-
- 6-8% circularity avg
- Gallery

*** Ginfull TMR+**

- Beginning distribution "***soon"***
- ***New Module***:
    1. Model name: ***RJ13-PX***_1st Batch_36Y°AK
    - **Fixed Magnet, End-Pole Configuration**: Instead of rotating the magnet, Ginfull centers it and places the poles at the ends - ideal for angle-based TMR sensors.
    - **Why This Matters?**: These sensors are highly sensitive to angular changes, so a stable magnetic field with clear pole separation improves its resolution.
    - This setup can likely enhance diagonal accuracy and reduce signal noise from off-axis movement.
    - **Potential Perks**:
        - Could mean improved linearity than Off-Axis counterparts with higher fidelity inputs for competitive gaming
        - Better compatibility with custom firmware or remapping tools.
    - **Potential Issues:**
        - Current test kits make use of the older module. Without the full metal housing. Human error while assembling could lead to shifting components which will ruin the performance drastically as seen on the JS13-pro.
- Video Example from PlaySpace - bilibili
- Gallery

*** Puyao/Favor Union TMR**

3. Modiflow v2 - (***Coming Soon***, new module, significant adjustments)

- New sensors variant,
- ***New Modules***: (after 20 years, adjustment are finally being made)
    - Improved alignment, Wider Lateral supports ≥1.2mm
    - Magnet assembly centered/fixed to the module
    - Angle TMR
- Gallery

Disclaimer: *Categorised Input Response; when compared to much slower older generation Hall Effect Sensors. Latest TMR encoders are getting close to standard Potentiometers given their longevity. They are a fantastic alternative.*

*Categorised/Rating Based; for overall module performance and behavior. * PS5 Fine tune OPTION and response curve adjust can help mitigate the range and inputs for each sensor variant.*

⚫ Potentiometers:

Note: Users that still prefer potentiometers (although short lifespan) for their reliable inputs. Or unwilling to adjust to experimental sensors.

ALPS ALPINE: 2.3k ohm

1. RJ13-XV series - Blue:
2. RJ13-XV series - Green:

- Gallery

Note: Newer/Better quality modules than the Standard applied by Microsoft.

Ginfull:

1. RJ13a1p - orange: 2.3k ohm (60° 2f)

- Gallery

2. RJ13a1k: 2.3k ohm (60° 2d)

- Gallery

Poly/FavorUnion, C&K, Falcon:

1. FJR10K - yellow: 2.3k ohm (50° or 60°)

- Gallery

💬 Community Help & Support

[Document will be Updated often as new information becomes available]

Connect with modders, testers, and support:

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- AlieExpress Hall Effect

🧰 Installation Guides

🧰 Installation

- ***Dualsense***: [schematic - placeholder]
- **Soldering/Desoldering: [Video Link Placeholder]**
    - **Quality of soldering job** will determine usability
    - **Ultimate Microsoldering tool Guide** by **nanofix**
    - **Soldering Crash Coarse** by wermy
    - Desoldering Made Easy by Mr Solderfix
    - Try this before by StuckatPrototype
    - Desoldering tool by **Greg's Gaming**, **etsy**
    - Desoldering technique by Budd's
    - Desoldering & Installation by SOSS Gaming
    - Desoldering & Installation Methods by DJbaro
    - Dual Sense Edge module calibration by MPE [1] & [2] or UberMP[1]

🪛 **Entry Level Tools**: [Amazon & AlieExpress shops] *no-affiliation

- [ ] $7 60watt@110v Solder Iron or $20 80watt@110v kit
- [ ] $4 | MG-Chemicals #426 copper solder wick
- [ ] $8 Metal pump with silicon tips
- [ ] $5 | MECHANIC TY-V866: Leaded Solder (tin [Sn] 63%, lead [Pb] 37%, 1-3% flux)
- [ ] $8 Essmetuin or $3 2pcs NC-559-ASM no clean RoHs flux
- [ ] $10 | 30pcs Precision Screwdriver kit
- [ ] $14 Adjustable PCB holder
- [ ] $6 Copper wire or 6pcs brass wire cleaner
- [ ] $7 YuiHF Tip tinner
- [ ] Multimeter - $8 Venlab, $9 LPXHHU, $40 FNIRSI DMT-99, $60 DST-210

Note: Advised to set your Soldering Iron to 350°c, working no longer than 3 seconds per joint for your new **TMR** sensors. Make sure to center and align the module with the motherboard's white label [example - place holder]. Flat on the board. And position the sensors evenly to avoid Calibration error such as undershoot or over extension. Variations between rotation. Counter or clockwise.

-

🌀 Compression Springs and levels of Tension

- **Favor Union, Modiflow, C&k, Falcon Modules:**
    - **Standard:** → 90gF
    - Lower or Increased: use dimensions from Ginfull
    -
- **Ginfull RJ13a1p Modules**:

    - v1 → SOLD with white label (HE) revisions.
    - v2 → SOLD with black/red label (HE) v2-v4 revisions. Some resellers have included them with the TMR sensor batches.
    - v1+ → SOLD with TMR sensor batches.
- **Compression Springs**:
    - Light: 0.4x8.6x10mm → 30gF
    - Lower: 0.5x8.6x7mm → 40-50gF
    - Standard: 0.5×8.6×10mm → 60gF module; compression force: 120+30g
    - Standard: 80gF module - Initial 90+10g, axial 80gF; compression force of 220+30g material: Stainless 305 or 316
    - Increased: 0.6×8.5×5mm → 100gF (use v1+ modules)
    - Extreme: 0.6x8.5x8-10mm → 160-180gF+ (use v1+ modules, may not perform well)
    - JUST WHY: wire 0.7-0.8mm x D8.6mm x L5-10mm → 200-400gF
    - [Download .stl file -placeholder] (needs internal support, again why)

- **Gulikit, Hallpi RJ13 Modules**:
- **Compression Springs**:
    - Light: ≥0.45x4.5x6mm → 50-65gF
    - Lower: 0.5x4.7x6.5mm → 70-80gF
    - Standard: 0.5x4.7x7.1mm → 70+20gF
    - Increased: 0.5x4.7x8mm → 120gF
    - Extreme: 0.6x4.7x8mm → 180gF+

- **ALPS Alpine RJ13, K-Silver JH13 (JS) Modules**:
- **Compression Springs**: (Certain Modules allow for increased adjustments)
    - Standard: 0.44x3.8x5.25mm → 58gF-105gF
    - Increased: [D] [L] PC021-148-6000-SST-0250-CG → 70gF-160gF
    - Extreme: [D] PC021-148-6000-MW-0270-C-IN-N → 120gF-210gF
    -
- [Older Module] K-Silver JH13:
    - Standard: 0.44x3.8x6mm → 50+15gF
    -
- [New Module] ALPS RJ13-XVS: [Blue & Green]
    - Lower: ≥0.45x4.5x6mm → 50+15gF
    - Standard: 0.5x4.7x6.5mm → 65+10gF
    - Increased: 0.5x4.7x7.1mm → 70+20gF
- [New Module] K-Silver JS13-pro:
    - Standard: ≥0.45x4.5x6mm → 50+15gF
    - Increased: 0.5x4.7x6.5mm → 65+15gF
    - Extended: 0.5x4.7x7.1mm → 90gF

- Gallery:

Note: Changing between spring length could lower or increase initial input force required. As well as the compression force required to click the tach-switch. Picking between wire sizes will change the overall axial force required to perform rotations. Choosing between #302, 304 A4, #305, #310, #316. #631 17-7 ph_Stainless Steel will create a loose or more stiff metal. But also determine how well it can resist temp, wear/fatigue, or combat environmental factors

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QOL tweaks and adjustments:

- ExtremeRate BDM-050_bumpers & trigger, NS51 TMR by UberMP [YouTube]
- [placeholder]
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🎚️ What am I using?

LS: Ginfull module + Hallpi v4 sensors **@60gF - 21.8%**

RS: Hallpi ak205 TMR → v5_XOD°2F **@90gF - 8%**

Reason for this joystick:

- Some describe it as “Floaty” & “light”, ultra-smooth feel due to low friction
- Even distribution of pressure while performing rotations
- Near-perfect mechanical recenters (0.00499 or below = mechanical 0%) while combined with 0% inner-deadzone filters
- Long-lasting and mod-friendly - closest to drift-free perfection this form factor has to offer
- Module Allows the use of alternative sensor assemblies
- Certain Sensor models can be used on modules of choice.

Recommendation: *Gathered from weighing in on the pros & cons. Sensor Stability, predictable and overall module performance.*

💬 Community Help & Support

[Document will be Updated often as new information becomes available]

Connect with modders, testers, and support:

- AKNES Discord

- AlieExpress Hall Effect