

## Data Instrument Technology

A company of Wellgain Group

## VID28 Precaution of Pointer Assembly **指針装配要點 ---** OUTER SHAFT ONLY 只適外軸用 Internal Shaft Assembly Precaution is refered to the VID29 spec. 內軸指針裝配要點.請以VID29指引作參考

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Description	Diagram <b>图解</b>	Specification		Possible problems when over limit 超标后可能引起的问题	Remarks 备注
描述 Maximum Push On Force 最大壓力	Push Force V < 60N	Limit 極限 60 max.	Unit 单位 N	Outer shaft deform/ Gear damage/ Abnormal Noise/ Wire damaged/ Wire broken/ 外軸變形\ 齿伤\ 杂音\ 断线\ 线伤	Proper fixing motor on PCB. Proper supporting during assembly. 电机需正确装上PCB;
Minimum Assembly Support 最小裝配支持	Push Force  Support  L=50min.xW=25	50 min. × 25 min.	mm	Outer shaft deform/ Gear damage/ Abnormal Noise/ Wire damaged/ Wire broken/ 外軸變形\ 齿伤\ 杂音\ 断线\ 线伤	Concrete base support should be located properly under the base of motor.
Maximum Pull Out Force 最大撥出力	Pull Force < 60N	60 max.	N	Outer shaft deform/ Gear damage/ Abnormal Noise 外軸變形\ 齿伤\ 杂音	Repetivitive push & pull force should also be avoided. This could weaken or damage the outer shaft structure and gears.
Maximum Perpendicular Force 最大横向力	⊥ Force < 5N	5 max.	N	Output shaft deform/ Non-concentric rotation of output shaft 轴弯\转动晃动	Excess perpendicular force should be avoided to bend the shaft. 需避 <b>冠过</b> 大 <b>横</b> 向力,防止 <b>轴變形</b> .
Maximum Force Inclination 最大力傾斜度	4.5° Push	4.5 max.	degree	Output shaft deform / Non-concentric rotation of output shaft 轴弯\转动晃动	Excess inclination of applied force should be avoided to deform the shaft. 施加外力時,需避兒外力过大傾斜,防止轴變形.
Maximum Pointer Straightness Deviation 最大指針 垂直度偏差	Pointer	0.10 max.	mm	Output shaft deform / Non-concentric rotation of output shaft. 轴弯\转动晃动	Pointer straightness should be maintained within 0.2mm during assembly. Excess inclination could induce excess perpendicular force and deform the shaft. 當裝配時指針需保持直度0.2mm垂直,這個斜会引起过量橫力,引至轴變
Maximum Assembly Speed 最高裝配速度	Max. assembly Speed 3mm/sec.	3 max.	mm/sec	Outer shaft deform/ Gear damage/ Abnormal Noise 外軸變形\ 齿伤\ 杂音\断线\线伤	Excess assembly speed could induce excess force on gears. 装配速度太快会令齿轮受力过大.
Maximum External Torque 最大外加扭力	External Torque < 25mNm	25 max.	mNm	Output shaft deform / Gear damage/ Stopper damage (360 Degree Rotate) 外軸變形\ 齿伤\ 限位受 <b>伤</b>	Excess external torque (> 40 mNm) applied on shaft would damage the outer shaft, gears and stoper. 过量外加扭力,外輪,齿轮和限任会被弄伤.
Maximum Imposed Acceleration 最高外加加速率	Imposed Acceleration <800 rad/s <sup>2</sup>	800 max.	rad/s <sup>2</sup>	Gear damage 齿伤	Excessive imposed acceleration would induce excessive force on gears, it must be avoided. 过高外加加速率,能引起齿轮上產生过大應力,必須避免.
Maximum Number of Pointer Insertion 最多指針裝配次數	Max. No. Of Insertion = 1	1 max.	time	Pointer loose out from Outer shaft / Pointer loose out from Outer shaft when temperature changes 指針由外軸脫落/ 指針在温度改變時由外軸脫落	Repetivitive assembly and disassembly pointer would cause outer shaft surface wearing. It induce loose matching between pointer and shaft.