



FS Series 4 Modules

Approved Retaining Clips

This document provides a list of retaining clips compatible and approved for use with all First Solar FS Series 4 Modules, which includes the backwards compatibility with Series 2 and Series 3 Modules. This list does not provide recommendations or make evaluations on the final system design or loading requirements. Absence from the list does not indicate that the retaining clip is incompatible, only that the retaining clip has not been submitted to First Solar for testing and approval.

First Solar warrants its FS-Series 4 modules according to the First Solar Module Warranty Terms & Conditions (PD-5-102, “Module Warranty Terms & Conditions”) provided modules are installed, operated and serviced as described in the First Solar User Guide (PD-5-200, “User Guide”) and in the Site Registration document (PD-5-109, “Global Site Registration Form”).

First Solar requires all system designs to be submitted for review and approval via the site registration process; therefore, for warranty purposes, every system with First Solar modules must be covered by a site registration. Project Developers and/or Customers should request this document from First Solar and obtain approval prior to equipment procurement and installation.

Approval of the following listed retaining clips is based upon and in accordance with the drawings and specifications effective at the time of evaluation. First Solar does not test clip longevity nor take responsibility for long-term performance. Compatibility with Series 4 modules is issued only with respect to tests outlined in PD-5-320-04. Thus, changes in design specifications or fabricator after First Solar approval may nullify the confirmation of compatibility. First Solar reserves the right to change the approval requirements for the retaining clip as well as a possible revocation of the retaining clip approval list.

<u>Clip Description & Supplier Contact</u>	<u>First Solar Approval Document #</u>
<ul style="list-style-type: none"> First Solar Fast Mount Mid Clip 20-00815-01, End Clip 20-00817-01 First Solar Tempe, AZ. www.FirstSolar.com 	PD-5-321-145 <i>Clip Length: 60mm</i>
<ul style="list-style-type: none"> First Solar Fast Mount - Table Mid Clip 20-00815-01, End Clip 20-00817-01, Clamp 20-00811 First Solar Tempe, AZ. www.FirstSolar.com 	PD-5-321-146 <i>Clip Length: 60mm</i>
<ul style="list-style-type: none"> Akcome S4 Thin Film Module Clamp Mid Clamp-S4-ZY-33, End Clamp-S4-BY-54 Akcome Metals Technology Economic Development Zone,Zhangjiagang,JiangSu,China 215600 akpv@akcome.com 	PD-5-321-147 <i>Clip Length: 80mm</i>
<ul style="list-style-type: none"> Sumitomo KF Thin Film Module Clip KF Mid Clip, KF End Clip Sumitomo Corporation 4-5-33, Kitahama, Chuo-ku, Osaka 541-0041 Japan 	PD-5-321-148 <i>Clip Length: 80mm</i>
<ul style="list-style-type: none"> Maruti Fast Mount Mid Clip 20-00815-01, End Clip 20-00817-01 Maruti B-69, 70 Sector-5 Noida; Uttar Pradesh; India sanjeevgrover@marutirubplast.com 	PD-5-321-150 <i>Clip Length: 60mm</i>
<ul style="list-style-type: none"> First Solar Fast Clip Mid Clip 30-02259, End Clip 30-02256, Clamp 30-02205 First Solar Tempe, AZ. www.FirstSolar.com 	PD-5-321-151 <i>Clip Length: 50mm</i>
<ul style="list-style-type: none"> Belectric Series 4 Clip Mid Clip MK-A HR, End Clip MK-A HR Belectric Wadenbrunner Str. 10, 97509 Kolitzheim, Germany michael.scholler@belectric.com 	PD-5-321-154 <i>Clip Length: 80mm</i>



- **Belectric Series 4 Clip**
Mid Clip MK-A II HR, End Clip MK-A II HR **PD-5-321-155**
 Belectric *Clip Length: 80mm*
 Wadenbrunner Str. 10, 97509 Kolitzheim, Germany
michael.scholler@belectric.com
- **Jurchen Series 4 Clip**
Mid Clip MK-A HR, End Clip MK-A HR **PD-5-321-156**
 Jurchen Technology *Clip Length: 80mm*
 Prinz-Ludwig- Straße 5, 97264 Helmstadt, Germany
Herbert.Heidel@jurchen-technology.com
- **Jurchen Series 4 Clip**
Mid Clip MK-A II HR, End Clip MK-A II HR **PD-5-321-157**
 Jurchen Technology *Clip Length: 80mm*
 Prinz-Ludwig- Straße 5, 97264 Helmstadt, Germany
Herbert.Heidel@jurchen-technology.com
- **Powerway Clip for FS Series 4**
Powerway Clip for FS Series 4 Mid Clip and End Clip **PD-5-321-158**
 Powerway *Clip Length: 70mm*
 No.11, Area D, Leping Industrial Park, Sanshui District,Foshan City, Guangdong Province, China
avrilmai@pvpowerway.com
- **MP-Tec laminate clamp FS4**
MP-Tec laminate clamp FS4 Mid Clip and End Clip **PD-5-321-159**
 MP-Tec *Clip Length: 80mm*
 Wilhelm-Conrad-Röntgen-Str. 10-12, 16225 Eberswalde
m.reifenstein@mp-tec.de
- **Universal Frameless module clamp**
UNIVERSAL Intermediate and Final frameless module clamp **PD-5-321-160**
 UNIVERSAL *Clip Length: 100mm*
 Pol. Ind. El Oliveral, C/G, 22, nave 5, 46190 Ribarroja del Turia Valencia Spain
ventas2@universal99.com

- Alomex Profiles S4 Clip**
Alomex Profiles Mid Clip NS 24-1084-15, End Clip NS 24-1084-16 PD-5-321-161
Alomexprofiles *Clip Length: 70mm*
G34 & G35 Sipcot Industrial Park, Sriperumbudur – 602105 Tamilnadu, India
alomexprofiles@gmail.com
- Alomex Profiles S4 Clip**
Alomex Profiles Mid Clip NS 24-1084-17, End Clip NS 24-1084-18 PD-5-321-162
Alomexprofiles *Clip Length: 80mm*
G34 & G35 Sipcot Industrial Park, Sriperumbudur – 602105 Tamilnadu, India
alomexprofiles@gmail.com
- Belectric Series 4 Clip**
Mid Clip MK-A HR, End Clip MK-A HR PD-5-321-163
Belectric *Clip Length: 90mm*
Wadenbrunner Str. 10, 97509 Kolitzheim, Germany
michael.scholler@belectric.com
- Belectric Series 4 Clip**
Mid Clip MK-A II HR, End Clip MK-A II HR PD-5-321-164
Belectric *Clip Length: 90mm*
Wadenbrunner Str. 10, 97509 Kolitzheim, Germany
michael.scholler@belectric.com
- Belectric Series 4 Clip**
Mid Clip MK-A HR, End Clip MK-A HR PD-5-321-165
Belectric *Clip Length: 100mm*
Wadenbrunner Str. 10, 97509 Kolitzheim, Germany
michael.scholler@belectric.com
- Belectric Series 4 Clip**
Mid Clip MK-A II HR, End Clip MK-A II HR PD-5-321-166
Belectric *Clip Length: 100mm*
Wadenbrunner Str. 10, 97509 Kolitzheim, Germany
michael.scholler@belectric.com

- Jurchen Series 4 Clip**
Mid Clip MK-A HR, End Clip MK-A HR PD-5-321-167
 Jurchen Technology *Clip Length: 90mm*
 Prinz-Ludwig- Straße 5, 97264 Helmstadt, Germany
Herbert.Heidel@jurchen-technology.com
- Jurchen Series 4 Clip**
Mid Clip MK-A II HR, End Clip MK-A II HR PD-5-321-168
 Jurchen Technology *Clip Length: 90mm*
 Prinz-Ludwig- Straße 5, 97264 Helmstadt, Germany
Herbert.Heidel@jurchen-technology.com
- Jurchen Series 4 Clip**
Mid Clip MK-A HR, End Clip MK-A HR PD-5-321-169
 Jurchen Technology *Clip Length: 100mm*
 Prinz-Ludwig- Straße 5, 97264 Helmstadt, Germany
Herbert.Heidel@jurchen-technology.com
- Jurchen Series 4 Clip**
Mid Clip MK-A II HR, End Clip MK-A II HR PD-5-321-170
 Jurchen Technology *Clip Length: 100mm*
 Prinz-Ludwig- Straße 5, 97264 Helmstadt, Germany
Herbert.Heidel@jurchen-technology.com
- AP Alternatives module Clip**
Mid Clip A349-003-AA-AA, End Clip A349-002-AA-AA PD-5-321-171
 AP Alternatives *Clip Length: 80mm*
 20-345 County Road X, P.O. Box 326, Ridgeville Corners, OH
sales@apalternatives.com
- First Solar Fast Mount Clip**
Mid Clip 20-00815-01, End Clip 20-00817-01, Clamp 20-00811-01 PD-5-321-173
 First Solar *Clip Length: 60mm*
 Tempe, AZ. www.FirstSolar.com
- Alumero Series 4 Clip**
Laminatmidclip 6.8 TPE, Laminatendclip 6.8 TPE PD-5-321-174
 Alumero Systematic Solutions GmbH *Clip Length: 80mm*
 Sonnenweg 1-2, A-5164 Seeham
Wolfgang.Rosenstatter@alumero.at

- ISS Series 4 Clip**
ISS-TFMC2/TFEC2 Clamp **PD-5-321-175**
 Integrated Solar Solutions *Clip Length: 75mm*
 Thailand
ehboys@gmail.com
- ZXBO Thin Film Module Clamp – Series 4**
Mid Clip 2014MC001, End Clip 2014EC001 **PD-5-321-176**
 ZXBO New Energy Technology (Suzhou) Co. *Clip Length: 80mm*
 Bldg. 5, No. 6, Baiyang Road, Lujia Town, Kunshan, Jiangsu, China (Mainland)
 86-512-57335127
- Schletter Eco6 – Series 4 Clips**
Mid Clip 133264-168, End Clip 133164-168 **PD-5-321-177**
 Schletter GmbH *Clip Length: 70mm*
 Gewerbegebiet an der B15, Alustrasse 1, 83527 Kirchdorf/Haag i. OB
hans.urban@schletter.de
- Maruti Rub Plast**
Maruti Rub Plast Fast Mount S4 Mid/End Clip **PD-5-321-178**
 Maruti Rub Plast Private Ltd *Clip Length: 70mm*
 B-69, Sector-5, Noida- 201 301. U.P., India
nageshwar@marutirubplast.com
- Proinso**
Proinso FS-IN Mid/End Clip **PD-5-321-179**
 Proinso Solar Energy Supplies *Clip Length: 80mm*
 2-22 Evergreen Industrial Estate, Shakti Mill Lane, Mahalaxmi
 Mumbai – 400011, India
asatam@sales-proinso.net
- Alomexprofile S4 Clip**
Mid Clip NS 24-1084-19, End Clip NS 24-1084-20 **PD-5-321-180**
 Alomex Profiles Pvt Ltd *Clip Length: 70mm*
 G34 & G35 Sipcot Industrial Park, Sriperumbudur – 602105
 Tamilnadu - India
alomexprofiles@gmail.com
- Alomexprofile S4 Clip**
Mid Clip NS 24-1084-21, End Clip NS 24-1084-22 **PD-5-321-181**
 Alomex Profiles Pvt Ltd *Clip Length: 80mm*
 G34 & G35 Sipcot Industrial Park, Sriperumbudur – 602105
 Tamilnadu - India
alomexprofiles@gmail.com

- Alomexprofile S4 Clip**
Mid Clip NS 24-1084-23, End Clip NS 24-1084-24 **PD-5-321-182**
 Alomex Profiles Pvt Ltd *Clip Length: 100mm*
 G34 & G35 Sipcot Industrial Park, Sriperumbudur – 602105
 Tamilnadu - India
alomexprofiles@gmail.com
- Clenergy S4 Clip**
Mid Clip ER-IC-FL/6.8/200, End Clip ER-EC-FL/6.8/200 **PD-5-321-183**
 Clenergy *Clip Length: 200mm*
 11/20 Duerdin St, Clayton VIC 3168, Australia
jose.torres@clenergy.com.au
- Belectric Series 4 Clip**
Mid Clip MK-A HR BP, End Clip MK-E HR BP **PD-5-321-184**
 Belectric Photovoltaic India Private Limited *Clip Length: 60mm*
 310/311,Acme Plaza, Andheri Kurla Road, Andheri(East).Mumbai 400059
michael.scholler@belectric.com
- Belectric Series 4 Clip**
Mid Clip MK-A HR BP, End Clip MK-E HR BP **PD-5-321-185**
 Belectric Photovoltaic India Private Limited *Clip Length: 70mm*
 310/311,Acme Plaza, Andheri Kurla Road, Andheri(East).Mumbai 400059
michael.scholler@belectric.com
- Belectric Series 4 Clip**
Mid Clip MK-A HR BP, End Clip MK-E HR BP **PD-5-321-186**
 Belectric Photovoltaic India Private Limited *Clip Length: 80mm*
 310/311,Acme Plaza, Andheri Kurla Road, Andheri(East).Mumbai 400059
michael.scholler@belectric.com
- Jurchen Series 4 Clip**
Mid Clip MK-A HR BP, End Clip MK-E HR BP **PD-5-321-187**
 Jurchen Technology (I) Pvt. Ltd. *Clip Length: 60mm*
 310-311, Acme Plaza, Andheri Kurla Road, Andheri East, Mumbai - 400059
amit.chheda@jurchen-technology.com
- Jurchen Series 4 Clip**
Mid Clip MK-A HR BP, End Clip MK-E HR BP **PD-5-321-188**
 Jurchen Technology (I) Pvt. Ltd. *Clip Length: 70mm*
 310-311, Acme Plaza, Andheri Kurla Road, Andheri East, Mumbai - 400059
amit.chheda@jurchen-technology.com
- Jurchen Series 4 Clip**
Mid Clip MK-A HR BP, End Clip MK-E HR BP **PD-5-321-189**
 Jurchen Technology (I) Pvt. Ltd. *Clip Length: 80mm*
 310-311, Acme Plaza, Andheri Kurla Road, Andheri East, Mumbai - 400059
amit.chheda@jurchen-technology.com

- NEXTracker Series 4 Clip**
NX Clamp FSLR PD-5-321-190
 NEXTracker, Inc
 6200 Paseo Padre Pkwy, Fremont CA, 94555, United States
twatson@NEXTracker.com
Clip Length: 50mm
- Mounting-Systems**
LMC CS FS TPE 6.8mm p-ass 700-0148, 702-0379 PD-5-321-191
 Mounting Systems GmbH
 Mittenwalder Str. 9a D 15834 Rangsdorf
F.Heymann@mounting-systems.com
Clip Length: 80mm
- Mounting-Systems**
LMC TPE 7.0mm p-ass 700-0149, 702-0380 PD-5-321-192
 Mounting Systems GmbH
 Mittenwalder Str. 9a D 15834 Rangsdorf
F.Heymann@mounting-systems.com
Clip Length: 80mm
- Pia Solar**
PIA160019A, PIA160020A FS clips PD-5-321-193
 PiA Solar SA (Pty) Ltd
 ERF 896 Sardinia Bay Rd., Lovemore Park, Port Elizabeth, RSA, 6070
colin.muller@piasolar.com
Clip Length: 80mm
- INOGEN**
INOGEN S4 FS clips PD-5-321-194
 INOGEN
 E-5 Yanyol Cad. No:180 Kaynarca, Pendik, İstanbul, Turkey
dursunaydoner@inogen.com.tr
Clip Length: 80mm
- Solar FlexRack**
SFR FS-4 4193, 4194 PD-5-321-195
 Solar FlexRack
 3207 INNOVATION PL YOUNGSTOWN, OH 44509
ghuzyak@solarflexrack.com
Clip Length: 80mm
- Alusin Solar**
FS4MID80, FS4END80 PD-5-321-196
 Alusin Solar
 Polígono Industrial de Cancienes s/n 33470 Corvera. Asturias.SPAIN
luis.saturnino@gonvarri.com
Clip Length: 80mm
- Preformed Line Products**
PLP-FSR4 End/Mid Clamp PD-5-321-197
 Preformed Line Products Ltd.
 296 Moo 4, Lardkrabang Industrial Estate EPZ3, Chalongkrung Road,
 Lumpratew, Lardkrabang, Bangkok 10520, Thailand
parutec@preformed.asia
Clip Length: 80mm

- **Clenergy S4 Clip**
ER-EC/IC-FL/6.8/80 **PD-5-321-198**
 Clenergy *Clip Length: 80mm*
 11/20 Duerdin St, Clayton VIC 3168, Australia
geza.anderson@clenergy.com
- **Clenergy S4 Clip**
ER-EC/IC-FL/6.8/120 **PD-5-321-199**
 Clenergy *Clip Length: 120mm*
 11/20 Duerdin St, Clayton VIC 3168, Australia
geza.anderson@clenergy.com
- **Clenergy S4 Clip**
ER-EC/IC-FL/6.8/150 **PD-5-321-200**
 Clenergy *Clip Length: 150mm*
 11/20 Duerdin St, Clayton VIC 3168, Australia
geza.anderson@clenergy.com
- **Irradiance S4 Clip**
IRRF-MCT-003, IRRF-ECT-003 **PD-5-321-201**
 Irradiance Solar Co., Ltd. *Clip Length: 80mm*
 29/11 Moo 3 T.Nadee A.Muang Samutsakorn Samutsakorn 74000, Thailand
narumol@irradiance.co.th
- **Jurchen Series 4 Clip**
MK-A HR-60 **PD-5-321-202**
 Jurchen Technology (I) Pvt. Ltd. *Clip Length: 60mm*
 310-311, Acme Plaza, Andheri Kurla Road, Andheri East, Mumbai - 400059
amit.chheda@jurchen-technology.com
- **Jurchen Series 4 Clip**
MK-A HR-70 **PD-5-321-203**
 Jurchen Technology (I) Pvt. Ltd. *Clip Length: 70mm*
 310-311, Acme Plaza, Andheri Kurla Road, Andheri East, Mumbai - 400059
amit.chheda@jurchen-technology.com
- **Grace Solar S4 Clip**
Grace Solar GS TF **PD-5-321-204**
 Grace Solar Technology Co., Ltd. *Clip Length: 80mm*
 No.E Gaoqi Industrial Park, Huli District, Xiamen, China
sales016@gracesolar.com
- **Belectric Series 4 Clip**
MK-A II HR BP-60 **PD-5-321-205**
 BELECTRIC GmbH *Clip Length: 60mm*
 Wadenbrunner Str. 10, 97509 Kolitzheim, Germany
michael.scholler@belectric.com

- **Belectric Series 4 Clip**
MK-A II HR BP-70 **PD-5-321-206**

 BELECTRIC GmbH *Clip Length: 70mm*
 Wadenbrunner Str. 10, 97509 Kolitzheim, Germany
michael.scholler@belectric.com
- **Belectric Series 4 Clip**
MK-A II HR BP-80 **PD-5-321-207**

 BELECTRIC GmbH *Clip Length: 80mm*
 Wadenbrunner Str. 10, 97509 Kolitzheim, Germany
michael.scholler@belectric.com
- **Jurchen Series 4 Clip**
MK-A II HR BP-60 **PD-5-321-208**

 Jurchen Technology (I) Pvt. Ltd. *Clip Length: 60mm*
 310-311, Acme Plaza, Andheri Kurla Road, Andheri East, Mumbai - 400059
amit.chheda@jurchen-technology.com
- **Jurchen Series 4 Clip**
MK-A II HR BP-70 **PD-5-321-209**

 Jurchen Technology (I) Pvt. Ltd. *Clip Length: 70mm*
 310-311, Acme Plaza, Andheri Kurla Road, Andheri East, Mumbai - 400059
amit.chheda@jurchen-technology.com
- **Jurchen Series 4 Clip**
MK-A II HR BP-80 **PD-5-321-210**

 Jurchen Technology (I) Pvt. Ltd. *Clip Length: 80mm*
 310-311, Acme Plaza, Andheri Kurla Road, Andheri East, Mumbai - 400059
amit.chheda@jurchen-technology.com
- **Clenergy S4 Clip**
IC/EC-FL/GE/6.8/80 **PD-5-321-211**

 Clenergy *Clip Length: 80mm*
 11/20 Duerdin St, Clayton VIC 3168, Australia
geza.anderson@clenergy.com
- **Clenergy S4 Clip**
IC/EC-FL/GE/6.8/120 **PD-5-321-212**

 Clenergy *Clip Length: 120mm*
 11/20 Duerdin St, Clayton VIC 3168, Australia
geza.anderson@clenergy.com
- **Clenergy S4 Clip**
IC/EC-FL/GE/6.8/150 **PD-5-321-213**

 Clenergy *Clip Length: 150mm*
 11/20 Duerdin St, Clayton VIC 3168, Australia
geza.anderson@clenergy.com

- Clenergy S4 Clip**
IC/EC-FL/GE/6.8/200 **PD-5-321-214**
 Clenergy *Clip Length: 200mm*
 11/20 Duerdin St, Clayton VIC 3168, Australia
geza.anderson@clenergy.com
- Würth Group S4 Clip**
EPTE 7.0mm Series 4 clip **PD-5-321-215**
 Würth *Clip Length: 80mm*
 Wurth USA Inc. 93 Grant Street Ramsey, NJ 07446
amaisterra@wurth.es
- S:Flex S4 Clip**
EPTE 7.0mm Series 4 clip **PD-5-321-216**
 S:Flex *Clip Length: 80mm*
 Unit 5, Skypark International, Blenheim Way, Liverpool L24 1YH, United Kingdom
info@sflex.com
- Sunlink S4 Clip**
End: 99-0011 & 00-0013, Center: 99-0010 & 99-0012 **PD-5-321-217**
 Sunlink *Clip Length: 90mm*
 2131 Williams Street, San Leandro, CA 94577
sara.jacobs@sunlink.com
- Sunlink S4 Clip**
End: 99-0015 & Center: 99-0014 **PD-5-321-218**
 Sunlink *Clip Length: 80mm*
 2131 Williams Street, San Leandro, CA 94577
sara.jacobs@sunlink.com
- Hopergy S4 Clip**
End: HOP-TED, Mid: HOP-TID **PD-5-321-219**
 Hopergy *Clip Length: 80mm*
 No.630, Tonghong Road, Tongan district, Xiamen 361100, China
info@hopergy.com
- Alkor S4 Clip**
End: ALK-FS-END-02, Mid: ALK-FS-Middle **PD-5-321-220**
 Alkor *Clip Length: 80mm*
 İTOB Organize San. Bölgesi 10005 Sokak No.19 Tekeli Köyü - Menderes - İzmir / TÜRKİYE
solar@alkoraluminyum.com.tr