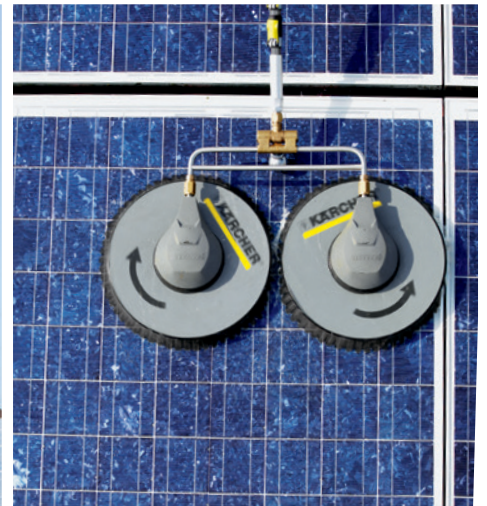


Clean modules – secure yields.
Cleaning systems for photovoltaic and solar thermal energy systems.



Making way for the power of the sun.

Debris from dust, soot and pollen can reduce the output of photovoltaic systems and solar thermal energy modules by up to 20 %. The natural power of rain, condensation and wind are nowhere near strong enough to clean the modules effectively. The systems require regular, thorough cleaning in order to be able to produce a consistently high level of power. This task can be assigned to external service providers or internal staff members.



Due to the large, enclosed surfaces of the modules, in most cases, thorough cleaning with just water and a sponge is not really feasible. This would also be far too dangerous, given that the modules are often positioned at an angle of 30 to 45 degrees on top of the roof. With iSolar, Kärcher has developed innovative accessories to solve this problem for professional pressure washers. iSolar is a modular construction which allows the safe and efficient cleaning of photovoltaic systems of any size. Rotating disc brushes attached to telescopic lances of various lengths are fed with water from the pressure washer. In fact, low pressure operation is sufficient for this task, since cleaning is carried out by the rotating brushes themselves. This removes any risk of damaging the modules. The iSolar accessories system also offers fall protection for working on

the roof, a mobile water softening system, and the RM 99 Solar Cleaner which was designed specifically for this purpose. As the first system for cleaning solar and photovoltaic systems, Kärcher iSolar has been tested by the DLG (German Agricultural Society) and excelled in their focus test.



iSolar – wherever the sun is shining.

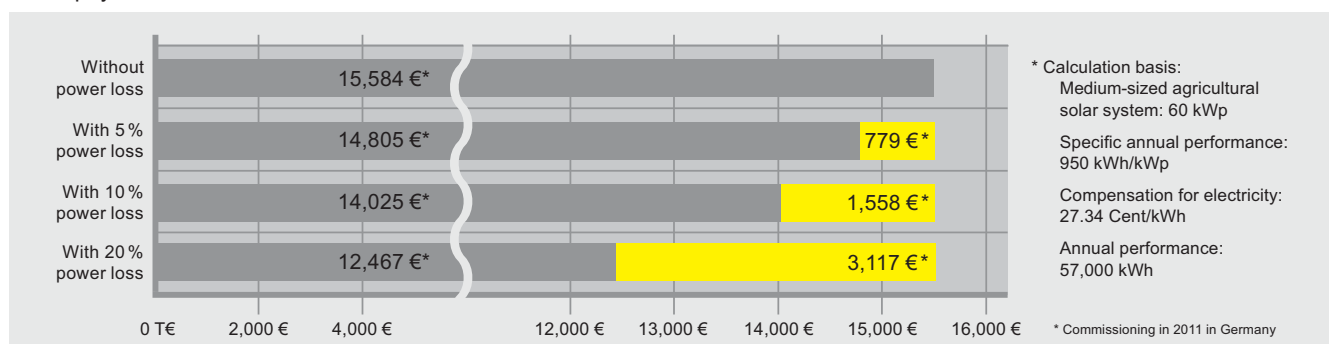
There are practically no limitations on how iSolar can be used. Wherever solar and photovoltaic systems are installed – agriculture, trade, industry or in the home – iSolar can ensure that the sun’s energy is properly harnessed. This is particularly helpful in areas exposed to heavy soiling. In agriculture, the main problems are dust from neighbouring fields and waste air from stables. Kärcher iSolar represents an economical choice for both system operators and cleaning service providers.



The iSolar accessories system can be used with an extremely broad range of roof and module types and can be easily adapted to meet specific requirements. Where roofs are easily accessible, cleaning can be done from the roof itself in combination with the fall protection system. Where roofs are difficult

to access, cleaning is done from a cherry picker. All sizes of system can be cleaned with the aid of telescopic lances, with lengths of up to 7 m, 10 m or 14 m. For elevated systems, we recommend using the iSolar 400 brush in combination with standard spray lances.

Since a build up of dirt leads to a loss in power and therefore in the compensation you receive for feeding electricity into the grid, iSolar pays for itself in no time.



Comprehensive, modular and compatible.

The iSolar accessories system is an all-round modular solution which is compatible with many Kärcher pressure washers. This means that existing pressure washers can usually be used to operate iSolar. Kärcher iSolar offers all the necessary products, from water connections to brushes. As the system is modular, we can build the perfect solution to fulfil any requirement.

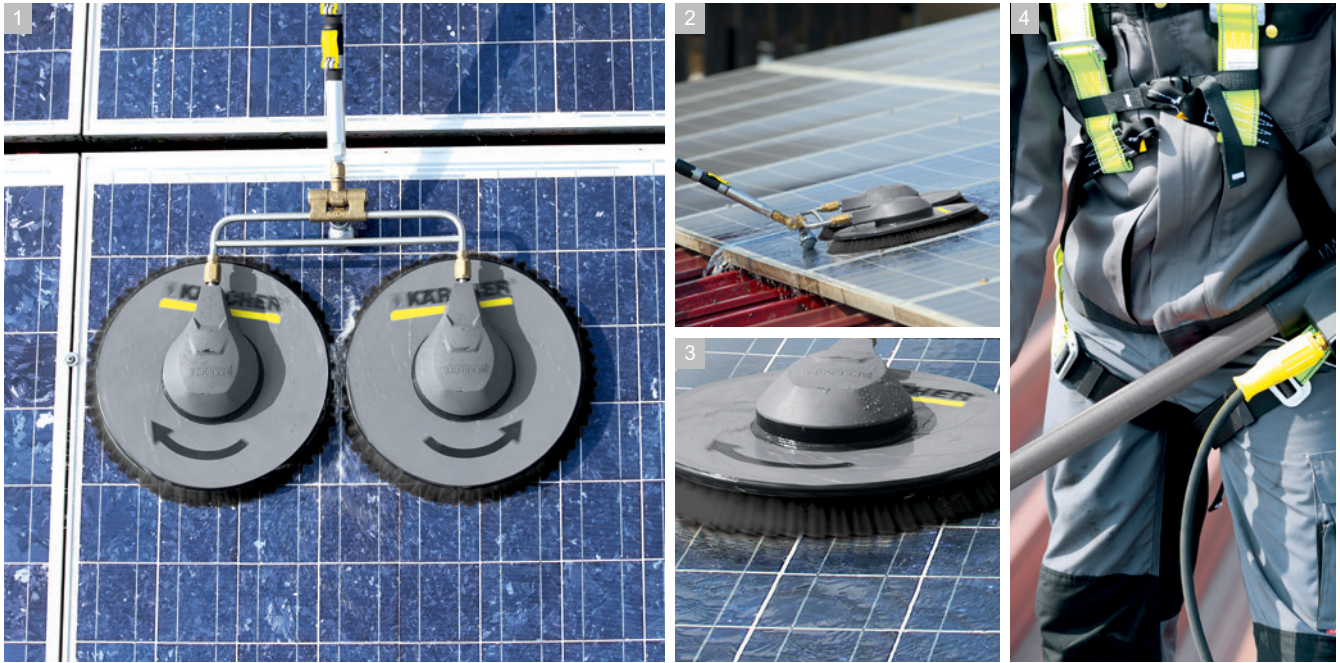


The iSolar 400 and iSolar 800 brushes have standard Kärcher interfaces and can be used with various telescopic lances and standard spray lances. Other iSolar optional extras include a mobile water softening unit and the special RM 99 Solar Cleaner (10 litres order no. 6.295-798.0, 20 litres order no. 6.295-799.0). The water softening system ensures that no lime residues from hard water reach the modules. The RM 99 Solar

Cleaner is the perfect solution for cleaning the special module surfaces and is ideal for heavy and greasy dirt. An indispensable safety accessory comes in the form of the fall arrestor. This is a guided piece of equipment on a kernmantle rope (as used by climbers and high-altitude rescuers), which immediately locks in the event of a potential fall, keeping the user safe. The integrated shock absorber effectively cushions the fall.

Gentle but thorough: the iSolar 800/400.

The iSolar 400 and iSolar 800 brushes are powered by the water jet from the pressure washer, which also helps to remove the dirt. However, the cleaning effect itself is achieved by the mechanical action of the bristles. The bristles are made of nylon, ensuring scratchfree modular surface cleaning. The iSolar 800/400 are operated at low pressure, eliminating any danger of the modules being damaged. To guarantee an exceptionally long service life, the rotating brushes are fitted with robust ball bearings.



1 iSolar 800
 Contra-rotating disc brushes ensure:
 excellent cleaning performance and area coverage
 optimal handling with balancing of transverse forces
 pre-rinsing of adjacent modules

2 Comfortable in every position
 Stable articulated joint offers:
 convenient working in various positions
 limit stop protects the modules from damage
 robust brass design for maximum durability

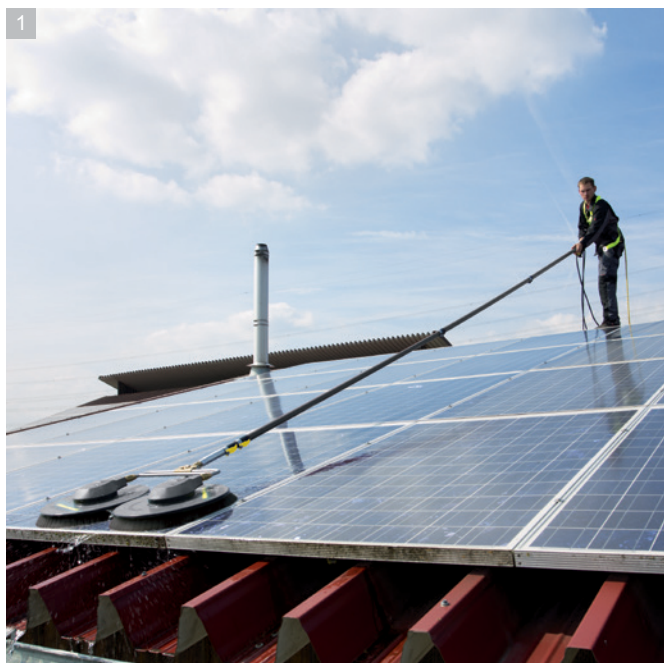
3 iSolar 400
 Entry-level model for smaller areas:
 particularly suitable for elevated systems
 pre-rinsing of adjacent modules

4 Fall protection
 For safe rooftop work:
 safety harness with quickrelease fasteners
 guided fall arrestor with shock absorber incl.
 12 m guide rope
 stop band for fastening

	iSolar 400	iSolar 800	Fall protection	Water-powered disc brushes
	with ball bearing Compact entry-level model for smaller areas Connection M 18 × 1.5; compatible with standard HD/HDS devices	Contra-rotating disc brushes with ball bearing Robust brass articulated joint for flexible working angle Connection M 18 × 1.5; compatible with standard HD/HDS devices	Certified, standard-compliant safety system Guided fall arrestor with shock absorber Robust metal box for storage and transport	
Technical Data				
Weight	kg	2.8	7	–
Working width	mm	400	800	–
Device flow rate	l/h	700–1,000 / 1,000–1,300	700–1,000 / 1,000–1,300	–
Length	m	–	–	–
Connection		M 18 × 1.5 IG	M 18 × 1.5 IG	–
Order No.		6.368-456.0 / 6.368-457.0	6.368-454.0 / 6.368-455.0	6.988-152.0

No place is unreachable. Guaranteed.

Large photovoltaic systems require cleaning systems with a large range. Kärcher iSolar telescopic lances, with an extension length of up to 14 m, are made from full carbon or carbon/glass fibre composite and offer maximum rigidity with minimal weight. Quick-release fasteners allow the length to be easily adjusted while in use. The pressure hose runs inside and feeds automatically when retracted/deployed. The brushes are operated via the integrated ball tap. This guarantees optimum handling and maximum freedom of movement. The bottom section of each telescopic lance is made of an electrically insulating carbon/glass fibre composite, ensuring the safety of the user.



1 Lightweight and easy to guide

The iSolar brushes are easy to use and can be safely guided with the help of the telescopic lances, both on a roof and from a cherry picker. The system is simultaneously lightweight and stable, thanks to the use of high-quality materials.

2 Working range of up to 14 m

Ultra lightweight and ultra stable full carbon material ensures that the longest telescopic lances offer maximum stability, even under extreme stress.

3 Perfect ergonomics

The ergonomically shaped handle with integrated ball tap allows the iSolar brushes to be activated easily and comfortably. Once the brushes have been activated, both hands are then free to guide the telescopic lance. A rubber buffer on the bottom end means that the lance can be safely set aside during breaks.

4 Secure connection and maximum comfort

High-quality aluminium telescopic clamps guarantee good clamping force and minimum wear. The quick-release fasteners make retracting and deploying telescopic lances easy.

	iSolar TL 7 H	iSolar TL 10 H TL 10 C	iSolar TL 14 C <small>Glass/carbon fibre composite</small>
	for high rigidity and strength with low weight Ergonomic handle with ball tap for good operating comfort Easy deployment thanks to quick-release fasteners and internal high-pressure hose	High-quality telescopic lance in hybrid or full carbon version Ergonomic handle with ball tap for good operating comfort Easy deployment thanks to quick-release fasteners and internal high-pressure hose	Full carbon material for maximum rigidity, high strength and maximum working range Ergonomic handle with ball tap for good operating comfort Easy deployment thanks to quick-release fasteners and internal high-pressure hose
Technical Data			
Weight	kg 3.5	4 3.7	5
Working width	mm –	–	–
Device flow rate	l/h –	–	–
Length	m 1.8–7.2	2.4–10.2	2.4–14
Connection	M 18 × 1.5 AG / M 22 × 1.5 AG	M 18 × 1.5 AG / M 22 × 1.5 AG	M 18 × 1.5 AG / M 22 × 1.5 AG
Material	Hybrid	Hybrid Carbon	Carbon
Order No.	4.107-054.0	4.107-053.0 4.107-055.0	4.107-052.0

Limescale and heavy dirt: safely dissolved.

Hard water can lead to lime residue which can result in a significant reduction in the module's performance. The mobile Kärcher water softeners and the RM 99 Solar Cleaner offer reliable protection against lime stains. In the water softener, an ion-exchange resin removes the dissolved limescale from the water and reduces the degree of hardness to 0–1 °dH. If cleaning with water alone is not enough, for example when tackling heavy or greasy dirt, the RM 99 Solar Cleaner removes the dirt and binds the dissolved limescale so that no lime stains can occur.



RM 99 Solar Cleaner: On heavy soiling and for hard water

Water softener: for hard water and loose dirt

1 RM 99 Solar Cleaner: gentle and effective
The RM 99 cleaning agent was specially developed for cleaning solar panels and photovoltaic systems and perfectly adapted to the special surfaces of the modules. RM 99 is highly efficient, gentle on materials, biodegradable and reliably removes even stubborn and greasy stains such as bird droppings, pollen, rust and dust from exhaust air systems. The RM 99 Solar Cleaner also prevents the formation of limescale. Thanks to its high efficiency, the full effectiveness of the system is achieved at a low cost.

2 Mobile anti-limescale unit
The mobile water softener is an easily transportable complete system with pneumatic wheels. The stable, convenient tubular frame construction makes loading and frost protection emptying easy. The regeneration system can be easily connected with the push of a button by means of quick coupling. The system is automatically backwashed and regenerated. A large water filter protects the water softener from coarse dirt particles. The fine mesh filter can be easily attached for simple cleaning tasks.

	RM 99 Solar Cleaner	WS 50, WS 100	WS Regenerator
	Removes even the most stubborn dirt in a way that is highly effective and gentle on materials Prevents limescale at all water hardness levels Easily biodegradable	Drying without leaving residues after cleaning Excellent mobility and easy transport Powder-coated tubular steel frame with large pneumatic-tyred wheels	Semi-automatic regeneration of the resin filter Easy to use (Plug 'n' Play) Efficient solution for intensive use
Technical Data		Technical Data	
Dosage total	0.125–0.25% from concentrate	Weight	kg 35 / 40 5.8
Consumption	5–10 ml/m ² (dep. on device and acc.)	Dimensions (L × W × H)	mm 550 × 550 × 1,030 250 × 300 × 460
Application temperature	max. 40 °C	Inflow pressure	bar 0–10 –
Label	No label required	Working temperature	°C 1–50 –
pH value	9 (slightly alkaline)	Capacity (at 20 °dH)	l 5,000 / 10,000 –
Order No.	6.295-798.0 (10l) / 6.295-799.0 (20l)	Order No.	6.368-463.0 / 6.368-464.0 6.368-465.0

Please contact us for more information:**Toll Free No: 1800 1234 180 (9:30 AM - 5 PM, Mon - Fri)****E-Mail: info@in.kaercher.com | service@in.kaercher.com****www.kaercher.com/in****Branch Offices:****Ahmedabad**

36-37 FF, Orchid Mall,
Nr. Govardhan Party Plot,
Thaltej,
Ahmedabad-380 059,
Gujarat

Bengaluru

No. 504, IV Block, 1st Stage,
100 Feet Outer Ring Road,
H.B.R. Layout, Nr. Hennur
Cross,
Bangalore-560 043,
Karnataka

Chennai

No. 54,
Alappakkam Main Road,
Maduravoyal,
Chennai-600 095,
Tamil Nadu

Cochin

46/561,
Kottankavu Junction,
Vennala (PO),
Ernakulam-682 028,
Kerala

Indore

R 96, Mahalaxmi Nagar,
Indore-452 010,
Madhya Pradesh

Jaipur

5th floor, Sunny Trade Centre,
New Atish Market,
Gopal Pura Bypass,
Mansarovar, Jaipur - 302020,
Rajasthan

Jamshedpur

#139, New Baradwari,
Sakchi,
Jamshedpur - 831001,
East Singhbhum

Kolkata

Unit No. 409,
PS IXL, Atghorha,
New Town Rajarhat,
Kolkata - 700136,
West Bengal

Mumbai

A 206 & B 009,
Punit Industrial Estate,
TTC Industrial Area,
Thane - Belapur Road,
Turbhe,
Navi Mumbai-400 705
Maharashtra

Noida

D-120, Sector 63,
Noida-201 307,
Uttar Pradesh

Panchkula

Plot No. 375,
Industrial Area, Phase-2,
Near BEL Factory,
Panchkula-134 113,
Haryana

Secunderabad

Flat No. 001, Ground Floor,
Rehana Manzil,
Plot No. 12/13,
Sanjeevaiah Nagar,
House Building Society,
Sikh Village,
Secunderabad-500 009,
Telangana

Vadodara

Office Number 418 & 419,
Orchid Plaza,
Behind McDonald's ,
Sama Savli Road,
Vadodara-390024,
Gujarat

Head Office:

D-120, Sector 63,
Noida-201 307,
Uttar Pradesh
Ph: +91 120 7111800
Fax: +91 (120) 7111900

Dealer Stamp Here: