

# Telemecanique **Altistart 48** Taming *energy*



**Altistart 48** soft start - soft stop units  
for 3-phase asynchronous motors from 4 to 1,200 kW.

# Altistart 48 :

A new range for even better *performance...*

## At *the heart of your applications,*

The new Altistart 48 soft start - soft stop unit gives you :

- High performance with its exclusive concept\* for perfectly controlled starting and deceleration,
- Protection at all levels
- Easy integration in enclosures and control systems.



### Two voltage ranges :

- 230 to 415V,
- 208 to 690V.

### for 50 and 60 Hz line supplies

- Wide tolerance range for generators

### for motor ratings from 4 to 1,200 kW

### Standards and approvals

UL / CSA / IEC 60947-4-2  
EMC: classes A and B  
DNV (marine, off-shore)  
C-TICK / GHOST / CCIB / NOM.

CE marking  
in accordance with standard IEC 60947-4-2



\* "TCS" patented system :  
Torque Control System

... and so *simple*

Take the strain  
off your motors,  
your machines...  
and your  
operating  
budgets...

The new generation of Altistart 48 starters has been designed to continually improve the operation of your machines :

- By reducing mechanical or hydraulic stress
- By reducing stress on the electrical distribution system (voltage peaks, overcurrent).
- By limiting energy loss and temperature rise, etc....

## Wire it, connect... and start

Factory set, the Altistart 48 is operational immediately.

## Customize your settings

Adjust the parameters of your motor using a simple, intuitive menu.



## Let the Power Suite\* software guide you

To prepare, store, print out configurations, compare files, etc....



Pocket PC



It is so simple to transfer data from the PC to the Pocket PC and vice versa.

\* Software which is common to the Altivar range of variable speed drives.  
Operating system available in 5 languages (English, French, German, Spanish and Italian).

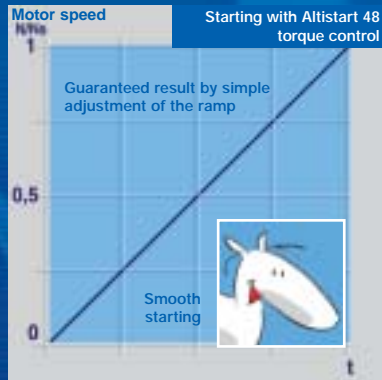




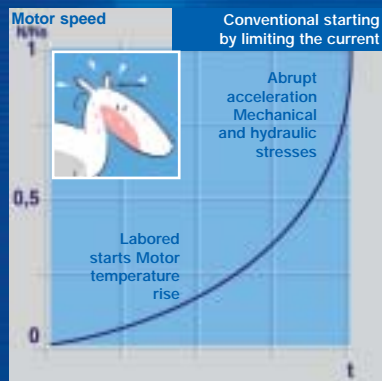
# High performance with the *exclusive TCS\* concept*

**\*TCS patent :**  
Torque Control System.

With **motor torque control**,  
**Altistart 48** provides perfect control of  
the starting and stopping of machines.



Control of the motor torque for the whole acceleration and deceleration period



Motor torque not controlled :  
non-linear acceleration  
and deceleration

**To limit stress on the drive chain.**

Only with the Altistart 48 "TCS" system is it possible to :

- Maintain gradual acceleration up to nominal speed, even if there is a high starting torque
- Improve the lifetime of the belts and the mechanism

**To reduce hydraulic transients.**

Only with the Altistart 48 "TCS" system is it possible to:

- Very effectively reduce pressure surges and valve surges whatever the load conditions of the pump, while maintaining smooth deceleration, from full speed to stop.



With **conventional starting** by limiting the current :

- Labored starting causing motor temperature rise
- Abrupt ending of acceleration causing mechanical stress
- Difficult adjustment compromise

With **conventional starting** by limiting the current :

- Abrupt acceleration at the end of the ramp, causing sudden pressurization of the hydraulic lines.
- Uncontrolled deceleration which may lead to pressure surges...



## Protection at all levels

**motor :**

- Thermal protection :
  - by calculation of the  $I^2t$  in accordance with IEC 60947-4-2.
  - by using PTC probes.
- Preheating function preventing condensation.
- Detection of phase failure.

**machine :**

- Underload and overload protection with adjustable thresholds and times
- Locked rotor
- Control of the direction of rotation



**Strength**  
on lines subject to interference



## Easy integration...

## ... in enclosures...



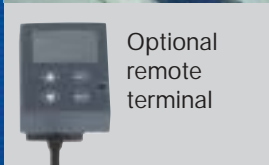
- **Simplified wiring** with through connection on all models
- Control of the starter bypass contactor at the end of starting with all protective functions maintained (thermal, underload, overload, etc...)



Control of the line contactor by the l'Altistart 48



Bypass contactor to prevent heat dissipation in the enclosure



Optional remote terminal



## ... and in control systems

### Functions to assist with the operation of your installations :

- Configuration of a second motor with different characteristics
- Display of electrical values (current, power, etc), load conditions and operating time.
- Maintenance of operator dialog due to a separate control circuit supply.
- A large number of configurable I/O (4 logic inputs, 2 logic outputs, 3 relay outputs and 1 analog output)
- Cascaded starting and deceleration of a number of motors



Removable control circuit terminal blocks

### A wide range of communication functions for remote access to control, monitoring and adjustment functions :

- **Integrated Modbus.**
- Communication modules :
  - Fipio, Profibus DP, DeviceNet.
  - Ethernet TCP/IP for setting up Transparent Factory : open control systems platform based on Internet technology



Transparent  
**FACTORY**  
Open for Business



# Altistart 48 at the heart of your *applications*



With the *torque control*  
and *functions* of the Altistart 48

## Pumps

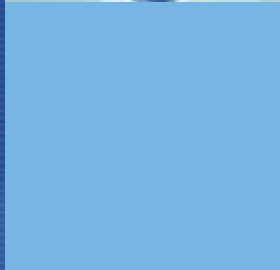
Standard\*



- Better control of hydraulic transients :
  - Gradual pressurization of fluid in lines
  - Reduction of pressure surges and valve surges (in presence of line supply)
  - Elimination of damage to filters or spouts (irrigation) and premature wear of lines, etc
  - Less stress on pipes with the reduction of pressure-over pressure phenomena
- Independent adjustment of the load conditions.
- Protection against underload (running dry), loss or inversion of phases and in the event of a locked rotor.
- Automatic switching of the motor to freewheel mode on stopping, when the flow rate of the pump drops to a low level, to prevent overheating.

## Fans and high inertia machines

(centrifuge, grinder, crusher, etc...)



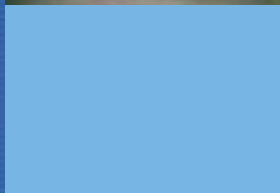
- Smooth starting, preventing stress on the drive chain and slipping of belts.
- "Smoke extraction" function
- Limitation of current and voltage drops on starting.
- Catching on the fly of a fan rotating in reverse.
- Detection of overload caused by clogging or underload (broken fan motor transmission)
- Braking torque on stopping.

Standard\* or severe\* (>30s)



## Compressors

Standard\* or severe\* (>30s)

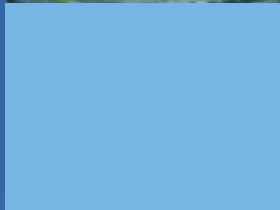


- Elimination of slipping of belts.
- Reduction of current peaks.
- Protection even for special motors.
- Detection of inversion of direction of rotation of phases.
- Contact for automatic emptying on stopping.



## Conveyors

Standard\*



- Gradual starting, reducing shocks and slipping of belts.
- Overload control to detect faults, hard spots or jamming, or underload control to detect breaks



\* "Standard" or "severe" defines the type of application, so that the starter can be chosen from the selection guide.

# Altistart 48 *selection guide*



\* Starting time greater than 30 seconds (see previous page defining the types of application)

Starters 230 to 415 V - 50 / 60 Hz				Type of application	
Motor Power		Nominal current (IcL)	Standard class 10	Severes* class 20	
230 V Kw	400 V kW				
3	5,5	12			ATS 48D17Q
4	7,5	17	ATS 48D17Q		ATS 48D22Q
5,5	11	22	ATS 48D22Q		ATS 48D32Q
7,5	15	32	ATS 48D32Q		ATS 48D38Q
9	18,5	38	ATS 48D38Q		ATS 48D47Q
11	22	47	ATS 48D47Q		ATS 48D62Q
15	30	62	ATS 48D62Q		ATS 48D75Q
18,5	37	75	ATS 48D75Q		ATS 48D88Q
22	45	88	ATS 48D88Q		ATS 48C11Q
30	55	110	ATS 48C11Q		ATS 48C14Q
37	75	140	ATS 48C14Q		ATS 48C17Q
45	90	170	ATS 48C17Q		ATS 48C21Q
55	110	210	ATS 48C21Q		ATS 48C25Q
75	132	250	ATS 48C25Q		ATS 48C32Q
90	160	320	ATS 48C32Q		ATS 48C41Q
110	220	410	ATS 48C41Q		ATS 48C48Q
132	250	480	ATS 48C48Q		ATS 48C59Q
160	315	590	ATS 48C59Q		ATS 48C66Q
-	355	660	ATS 48C66Q		ATS 48C79Q
220	400	790	ATS 48C79Q		ATS 48M10Q
250	500	1000	ATS 48M10Q		ATS 48M12Q
355	630	1200	ATS 48M12Q		-

For the 230 to 415 V range, the starter can be connected in the delta connection of the motor to reduce the rating of the starter (please consult our catalog)

Starters 208 to 690 V - 50 / 60 Hz													Type of application	
Motor Power in HP				Motor Power in kW								Nominal current (IcL)	Standard class 10	Severes* class 20
208 V HP	230 V HP	460 V HP	575 V HP	230 V Kw	400 V kW	440 V kW	500 V kW	525 V kW	660 V kW	690 V kW	A			
2	3	7,5	10	3	5,5	5,5	7,5	7,5	9	11	12			ATS 48D17Y
3	5	10	15	4	7,5	7,5	9	9	11	15	17	ATS 48D17Y		ATS 48D22Y
5	7,5	15	20	5,5	11	11	11	11	15	18,5	22	ATS 48D22Y		ATS 48D32Y
7,5	10	20	25	7,5	15	15	18,5	18,5	22	22	32	ATS 48D32Y		ATS 48D38Y
10	-	25	30	9	18,5	18,5	22	22	30	30	38	ATS 48D38Y		ATS 48D47Y
-	15	30	40	11	22	22	30	30	37	37	47	ATS 48D47Y		ATS 48D62Y
15	20	40	50	15	30	30	37	37	45	45	62	ATS 48D62Y		ATS 48D75Y
20	25	50	60	18,5	37	37	45	45	55	55	75	ATS 48D75Y		ATS 48D88Y
25	30	60	75	22	45	45	65	55	75	75	88	ATS 48D88Y		ATS 48C11Y
30	40	75	100	30	55	55	75	75	90	90	110	ATS 48C11Y		ATS 48C14Y
40	50	100	125	37	75	75	90	90	110	110	140	ATS 48C14Y		ATS 48C17Y
50	60	125	150	45	90	90	110	110	132	160	170	ATS 48C17Y		ATS 48C21Y
60	75	150	200	55	110	110	132	132	160	200	210	ATS 48C21Y		ATS 48C25Y
75	100	200	250	75	132	132	160	160	220	250	250	ATS 48C25Y		ATS 48C32Y
100	125	250	300	90	160	160	220	220	250	315	320	ATS 48C32Y		ATS 48C41Y
125	150	300	350	110	220	220	250	250	355	400	410	ATS 48C41Y		ATS 48C48Y
150	-	350	400	132	250	250	315	315	400	500	480	ATS 48C48Y		ATS 48C59Y
-	200	400	500	160	315	355	400	400	560	560	590	ATS 48C59Y		ATS 48C66Y
200	250	500	600	-	355	400	-	-	630	630	660	ATS 48C66Y		ATS 48C79Y
250	300	600	800	220	400	500	500	500	710	710	790	ATS 48C79Y		ATS 48M10Y
350	350	800	1000	250	500	630	630	630	900	900	1000	ATS 48M10Y		ATS 48M12Y
400	455	1000	1200	355	630	710	800	800	-	-	1200	ATS 48M12Y		

# A comprehensive range of *Motor Starters*

Increase your performance with the associated **TeSys** components\*

## ■ Soft start - soft stop units



**LH4**  
6 to 85 A



**Altistart 48**  
17 to 1200 A

## ■ Variable speed drives



**Altivar 11**  
0,18 to 2,2 kW



**Altivar 38**  
0,75 to 315 kW



**Altivar 28**  
0,37 to 15 kW



**Altivar 58**  
0,37 to 75 kW



**Altivar 68**  
75 to 630 kW



- Circuit-breakers,
- Contactors,
- Fuse
- ...
- up to the highest powers

*\*For further details on the combinations of products, please consult our catalog.*

## A unique partner, a global presence

Constantly available, worldwide. With more than 5000 points of sale in 130 countries, you can be sure to find the range of products which is right for you and which complies totally with the standards in the country in which they are to be used.

### Schneider Electric **Services**

Our services, near you, wherever you are. Our experts are at your disposal, working with you to design your customized solution. Our aim: to optimize your installations and improve your industrial performance.

Also available **in ready-assembled versions ready** for use in floor-mounted or wall-mounted enclosures.

### Schneider Electric Industries S.A.

#### Head office

89 boulevard Franklin Roosevelt  
92504 Rueil Malmaison Cedex  
FRANCE  
<http://www.schneider-electric.fr>

Owing to changes in standards and equipment, the characteristics given in the text and images in this document are not binding until they have been confirmed with us.

Production : 3000 NR

Photos : Schneider Electric - ImageBank