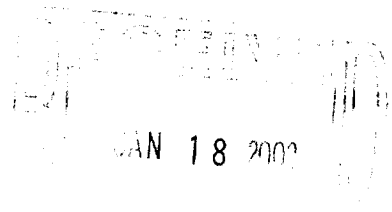
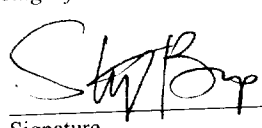


02-04-2002

FORM PTO 1595
1-31-92U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

101969672

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

<p>1. Name of conveying party(ies) 1.18.02</p> <p>Dana S. Hauschulz</p> <p>Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>2. Names and address of receiving party(ies):</p> <p>Name: MKS Instruments, Inc.</p> <p>Address: Six Shattuck Road</p> <p>City, State & Zip: Andover, Massachusetts 01810</p> <p>Additional names & addresses attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>3. Nature of conveyance:</p> <p><input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger</p> <p><input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name</p> <p><input type="checkbox"/> Other _____</p> <p>Execution Date August 28, 2001</p>	<div style="text-align: center;">  </div>
<p>4. Application number(s) or patent number(s):</p> <p>If this document is being filed together with a new application, the execution date of the application is: _____</p> <p>A. Patent Application No.(s) 09/907,494 B. Patent No.(s) _____</p> <p style="text-align: center;">Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	
<p>5. Name and address of party to whom correspondence concerning document should be mailed:</p> <p>Name: James R. Young</p> <p>Chrisman, Bynum & Johnson, P.C.</p> <p>Street Address: 1900 Fifteenth Street</p> <p>City, State, Zip: Boulder, Colorado 80302</p>	<p>6. Total number of applications and patents involved: One</p> <p>7. Total fee (37 CFR 3.41)</p> <p><input checked="" type="checkbox"/> Enclosed (\$40.00)</p> <p><input type="checkbox"/> Authorized to be charged to deposit account</p> <p>8. Deposit account number: 03-1725</p> <p>(Attached duplicate copy of this page if paying by deposit account)</p>
DO NOT USE THIS SPACE	
<p>9. Statement and signature.</p> <p><i>To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.</i></p> <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 20px;"> <div style="width: 30%;"> <p>Stefan T. Bump</p> <p>Name of person signing</p> </div> <div style="width: 30%; text-align: center;">  <p>Signature</p> </div> <div style="width: 30%; text-align: center;"> <p>10-26-01</p> <p>Date</p> </div> </div> <p style="text-align: right; margin-top: 10px;">Total number of pages comprising recordation: [3]</p>	

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PATENT
REEL: 012525 FRAME: 0915

ASSIGNMENT

WHEREAS, I, Dana S. Hauschulz, 1207 Aikins Way, Boulder, Colorado 80303, have invented a certain new and useful HEATER CONTROL SYSTEM WITH COMBINATION MODULAR AND DAISY CHAINED CONNECTIVITY AND OPTIMUM ALLOCATION OF FUNCTIONS BETWEEN BASE UNIT AND LOCAL CONTROLLER MODULES, said for which application for Letters Patent of the United States was filed on July 16, 2001, and assigned Serial No. 09/907,494;

WHEREAS, MKS Instruments, Inc., of Six Shattuck Road, Andover, Massachusetts 01810, a corporation fully organized and existing under the laws of the Commonwealth of Massachusetts, is desirous of acquiring the entire right, title and interest therein and thereto;

NOW, THEREFORE, be it known that for and in consideration of the sum of One Dollar (\$1.00) and certain other good and valuable consideration to us in hand paid, the receipt of which is hereby acknowledged, I, the said Dana S. Hauschulz, by these presents do sell, assign and transfer unto the said MKS Instruments, Inc., its successors, legal representatives and assigns, the entire rights, title, and interests in and to the said invention and the aforesaid patent application, for the territory of the United States of America and for all foreign countries and to all Letters Patent, continuations, reissues, and extensions to be obtained therefor; and I further agree to cooperate with the assignee hereunder in the obtaining and sustaining of any and all such Letters patent, but at the expense of said assignee.

I do further agree to execute all applications for patent, assignments, and other appropriate documents and to perform all acts and to do all things necessary to make this Agreement effective and to perfect all right, title and interest in and to said discoveries, improvements or inventions in

MKS Instruments, Inc., its successors, legal representative and assigns, as the assignee of the entire right, title and interest therein.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal on the date set forth hereinafter.

Dana S. Hauschulz
Dana S. Hauschulz

STATE OF COLORADO)
)ss.
COUNTY OF BOULDER)

Before me, a Notary Public in and for the said County and State, personally appeared DANA S. HAUSCHULZ, known to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 28th day of August, 2001.

(SEAL) *Susana M. Jones*
Notary Public

My Commission Expires: 4-21-2002